



Town of Milton FIRE MASTER PLAN

Final Report
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Preface

This document serves as the Fire Master Plan for the Town of Milton, providing strategic direction for long-term protection of life and property. It is informed by a comprehensive Community Risk Assessment and aligned with public safety priorities, organizational goals, and a Council-approved budgetary framework. In addition, this plan is designed as a strategic tool for assessing and anticipating the community's evolving emergency service needs.

Acknowledgements

Behr would like to specifically acknowledge the leadership, diligence and continuous improvement focus of Fire Chief Peter Gatto. The fire services' leadership and firefighters are dedicated and engaged in all facets of their community. Their pride in the department and their service is clear.

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ACRONYMS

Acronym	Definition
AHJ	Authority Having Jurisdiction
ASP	Area Structure Plan
CAD	Computer Aided Dispatch
CRA	Community Risk Assessment
ERF	Effective Response Force
EMO	Emergency Management Ontario
FMP	Fire Master Plan
FUS	Fire Underwriters Survey
MAP	Mutual Aid Plan
MFRS	Milton Fire & Rescue Services
MVC	Motor Vehicle Collision
NFPA	National Fire Protection Association
OBC	Ontario Building Code
OFC	Ontario Fire Code
OFM	Office of the Ontario Fire Marshal
POC	Paid-On-Call (Volunteer Firefighters)
PSAP	Public Safety Answering Point
RMS	Records Management System
SOC	Standard of Cover
SOG	Standard Operating Guidelines

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EXECUTIVE SUMMARY

Introduction

Fire and emergency services are in a state of constant change and adaptation. Fire and emergency services are continually challenged by budget constraints, unprecedented growth, rising call volumes, and increasing and unusual risks against expectations to do more with less. The demand for emergency response and emergency management services has expanded, causing the role to shift and for services to diversify.

Effective management of fire and emergency services departments requires a clear understanding of risk and the ability to provide appropriate responses to mitigate the risks. Failing to realize and address these challenges could leave the community and its responders vulnerable.

Modern fire, rescue and emergency services have evolved into a critical component of a community's social safety net. Whereas early fire departments were established specifically to combat structure fires that, at the time, were often devastating. Today's fire departments are also called upon to respond to medical emergencies, rescues of varying types, motor vehicle incidents, dangerous goods releases, wildland fires, and natural disasters. As a result, fire departments must be adequately resourced and equipped to provide these situations safely, efficiently, effectively and with a great deal of competency.

The goal of developing this Fire Master Plan (FMP) is to provide strategic direction for Milton Fire & Rescue Services. This plan will provide a systematic and comprehensive approach to evaluate current response capabilities by identifying and mitigating risks through a community risk assessment. This plan will also assist in formulating and communicating strategic directions for the fire service while highlighting opportunities for improved service delivery. This plan can also be used to convey information to the public, staff, and municipal council about what to expect in the municipality's approach to fire and emergency service planning, service delivery model, policy, and development.

Ultimately, this plan determines options for an optimum service delivery model and serves as a blueprint for the municipality to develop more effective and efficient fire and emergency services in the face of current and future challenges.

Strategic Priorities and Program Goals

The Milton Fire & Rescue Services (MFRS) will utilize the 2024 Community Risk Assessment (CRA) to identify the fire safety risks within the Town to inform the development of goals and objectives for the delivery of fire protection and emergency response provided.

Optimizing the methodology of the three lines of defense (**Public Education, Fire Prevention and Code Enforcement, and Emergency Response**) will allow MFRS to provide a comprehensive fire protection program.

The following strategic priorities are the foundational principles that will inform future resource allocations, policy development and operational enhancements:

1. Risk-Informed Service Delivery

Ensure the ongoing application of the Community Risk Assessment (CRA) to identify and evaluate fire safety risks across the municipality. This assessment will guide the development of targeted goals, objectives, and service levels aligned with community fire life safety needs and legislative responsibilities.

2. Strengthening the First Two Lines of Defence

Optimize the use of public education and fire prevention, supported by the enforcement of fire safety standards and the Fire Code. These proactive measures are essential to reducing fire risk and enhancing community resilience through a comprehensive fire protection approach.

3. Sustainable and Value-Driven Services

Prioritize strategies that enhance the long-term sustainability of fire protection and emergency services. Focus on delivering the most effective and efficient levels of service to ensure fiscal responsibility and maximize value for the community.

To support the strategic priorities MFRS has defined a series of program-specific goals to guide the development, delivery, and continuous improvement of fire protection services.

Goal # 1: Administration

Enhance administrative efficiency and support systems to ensure the seamless operation and sustainability of programming initiatives, maintain key operational activities, and maintain the appropriate resources to provide support to identified programs.

Goal #2: Public Education

Develop and implement fire safety education campaigns that targets risks identified in the CRA to raise awareness about fire prevention, the importance of fire safety practices, and what to do in an emergency.

Goal #3: Fire Prevention and Code Enforcement

Implement a program for proactive fire safety inspections for residential, commercial, and public buildings to ensure compliance with fire prevention codes, identify fire hazards, and encourage timely maintenance and repairs to non-compliant issues.

Goal #4: Operations

Provide emergency response services that reflect the community's identified risks, growth projections, and operational realities. Services will be delivered with a focus on health and safety, industry best practices, and a commitment to efficiency, effectiveness, and long-term value for the community.

Goal #5: Emergency Management

Strengthen its capacity to prepare for, respond to, and recover from all types of emergencies. Through coordinated planning, training, and inter-agency collaboration, the Service will enhance community resilience, safeguard life and property, and support continuity of operations across a broad range of hazards.

Goal #6: Communications

Maintain and enhance a technologically advanced communications system that supports the operational needs of a growing community. By adopting industry-leading practices, scalable technologies, and robust dispatch protocols, the Service will ensure timely, accurate, and resilient emergency communications that enhance firefighter safety and improve overall service delivery.

Goal #7: Training

Deliver a progressive and sustainable training program aligned with the services authorized in its Establishing and Regulating By-law. The program will integrate current firefighting practices, safety standards, and emerging technologies to ensure personnel are equipped with the competencies needed to respond safely and effectively to evolving risks and service demands.

Goal #8: Facilities, Apparatus, and Equipment

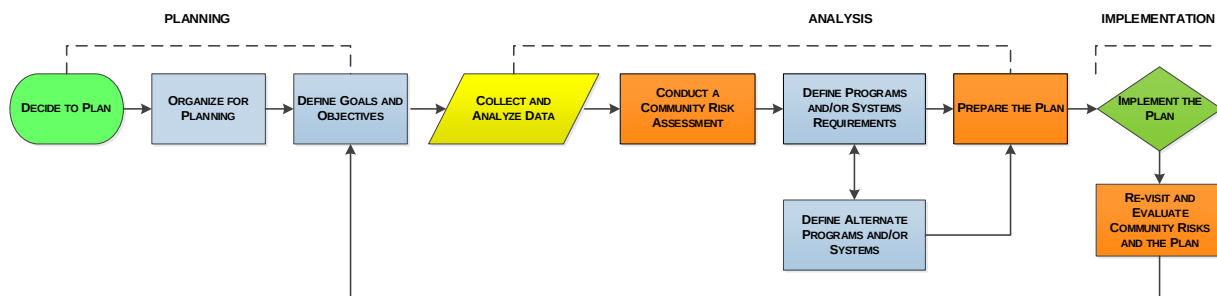
Ensure that apparatus and equipment are available in the appropriate quantity, maintained in a ready and reliable state, that align with operational requirements. Through robust preventative maintenance and asset management practices, the Service will support safe, effective, and efficient emergency response across the community.

Fire Services Master Plan Process

The following diagram illustrates the process used to complete this plan. A Fire Master Plan is sometimes referred to as a ‘road map’ for the future and used as a guiding document for current and future department leaders and decision-makers.

As outlined in the implementation phase, it is strongly recommended that this plan be reviewed and assessed at least annually, or more frequently in response to significant changes, such as population growth or increased residential and industrial development, that may impact community risk. When feasible, a third-party review and update should be conducted at the five-year mark to provide an objective evaluation of operations and enhance the credibility of the master planning process.

Figure 1: Fire Services Master Plan Process



Project Approach and Consultative Process

While risks are the basis for prompting response decisions, our analysis also investigated the needs of the community and will provide a point of reference upon which future decisions and priorities can be evaluated and implemented. This includes identifying priorities, challenges, and opportunities for improvement in the delivery of emergency services to the community and overall public safety. Along with risks, this plan also considers applicable legislation, industry-leading best practices, and standards to provide unbiased analysis and evidence-based recommendations.

Targeted interviews were conducted with fire service leadership and various Town department managers to gather relevant data and insights. An interview guide was used to conduct the interviews to promote open dialogue about the community, its risks, and general concerns related to municipal operations.

Three key aspects in the development of this Fire Master Plan included a community and station tour, and targeted stakeholder interviews. The community tour focused on the overall footprint, topography, transportation infrastructure of the municipality and the various response zones for the current fire service stations. Visiting the stations provided an opportunity to assess the general condition and operational functionality.

An industry peer comparative analysis¹ of MFRS was conducted as a method of benchmarking the performance of MFRS alongside similar municipalities. These benchmarks include budgets, performance, effectiveness, and efficiencies.

Although fire and emergency services have the same goal of ultimately protecting life, property and the environment, each community has its unique features in how to accomplish their goals. Our main criteria for the comparative analysis are indicators of effectiveness and efficiencies for risk and mitigation amongst the communities.

The communities included in the comparative analysis include:

- City of Guelph
- Town of Oakville
- City of Burlington
- Town of Halton Hills
- Municipality of Clarington
- Municipality of Chatham-Kent

For the budget year of 2024, the six services surveyed have total municipal operating budgets within the range of \$69M to \$550M annually. MFRS ranks among the lower range within the municipalities surveyed for fire department operating budget (5th), and cost per capita (6th), and is ranked 5th for the percentage of municipal budget. Combined this is considered to be a lower ranking for a Town the size of Milton vs the comparators.

There is no standard for categorizing incidents so it must be understood that these statistics are broadly based and are only general reference when comparing fire departments. The community comparative analysis can only be interpreted from an indirect basic level due to the disparity from each of the surveyed communities' organizational structure, core services and levels, emergency response categorization, and financial systems. Direct comparison is strongly discouraged.

¹ Please see Section 1.8, *Municipal Comparative Analysis*, Page 8

Community Overview

The Town of Milton, located in southern Ontario within Halton Region and the Greater Toronto Area (GTA), is one of Canada's fastest-growing municipalities. According to Statistics Canada, Milton had a population of 132,979² covering approximately 363.83 km², resulting in a population density of about 365.5 persons per square kilometer.

The community comprises of 25 distinct neighbourhoods, featuring vibrant urban centres, established residential areas, rural landscapes, and industrial zones.

Milton's strategic location offers excellent regional connectivity. Highway 401 runs through the town, supported by Highway 407 to the north and Highway 25 running north-south. Additionally, the GO Transit Milton line provides convenient commuter access to Toronto and surrounding municipalities.

Situated along the Niagara Escarpment, a UNESCO World Biosphere Reserve, Milton offers both natural heritage and recreational opportunities such as the Bruce Trail. Milton's proximity to Toronto, Mississauga, Guelph, and Kitchener positions it as a strategically located community with strong economic, educational, and recreational connections throughout the Greater Toronto and Hamilton Area.

Community Risk Assessment

In accordance with Ontario Regulation 378/18, Milton completed a Community Risk Assessment (CRA) in December 2024 to evaluate hazards, vulnerabilities, and risk factors that directly impact fire protection service needs. The CRA applied the nine provincially mandated profiles, geographic, building stock, critical infrastructure, demographics, hazard, public safety response, community services, economic, and past loss/event history, using data from MFRS, the Office of the Fire Marshal (OFM), Statistics Canada, MPAC, and other municipal sources. This comprehensive approach ensured a balanced evaluation of both the probability and consequence of fire and rescue-related risks.

The CRA identified several high-priority risks requiring strategic attention. Chief among these is the predominance of residential occupancies (Group C), which account for nearly 90% of Milton's building stock and the vast majority of fire-related fatalities, injuries, and losses. Contributing factors include absent or malfunctioning smoke alarms, an aging housing stock, and the growing presence of additional dwelling units (ADUs) that increase occupancy complexity without reliable identification systems.

² <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?DGUIDlist=2021A00053524009&GENDERlist=1&HEADERlist=0&Lang=E&STATISTClist=1&SearchText=Milton>

Other significant risks include motor vehicle collisions along major transportation corridors, the presence of high-fuel-load industrial properties and large-footprint buildings, vulnerable occupancies such as long-term care homes, demographic risk factors associated with seniors, children, and newcomers, and extended response times and limited water supply in rural areas. Collectively, these findings emphasize the importance of prevention, education, infrastructure planning, and operational readiness.

Top Fire & Rescue-Related Risks Identified in Milton's CRA:

- Residential structure fires in Group C occupancies (predominant source of fatalities, injuries, and loss).
- Absent, failed, or malfunctioning smoke alarms reducing early warning and evacuation.
- Aging and higher-risk buildings constructed prior to modern building and fire codes.
- Transportation-related emergencies, particularly motor vehicle collisions and dangerous goods incidents along highways and rail.
- Industrial and large-footprint buildings with high fuel loads creating disproportionate fire risk.
- Vulnerable occupancies (e.g., long-term care, daycares) with complex evacuation needs.
- Demographic risk factors, including higher proportions of seniors, children, and newcomers requiring tailored public education.
- Geographic response challenges in rural areas, including extended travel times and limited water supply.

Department Overview

Milton Fire & Rescue Services (MFRS) is a composite fire service that has proudly served the community since 1857. What began as a volunteer Hook and Ladder Company has grown into a modern, professional organization operating from five strategically located fire stations. The department is staffed by approximately 180 personnel, including full-time and part-time firefighters, fire prevention officers, training staff, communications personnel, apparatus maintenance, and administrative support.

MFRS delivers a broad range of services that extend well beyond traditional fire suppression. These include emergency medical response, technical rescue, water and ice rescue, hazardous materials response, fire inspections, code enforcement, and public education initiatives. The department also maintains fire protection agreements with neighbouring municipalities such as Halton Hills, Oakville, Burlington, and Mississauga, ensuring operational flexibility during major or simultaneous incidents. Guided by Establishing & Regulating By-law 072-2025, MFRS is committed to safeguarding the community through risk-informed service delivery, collaboration, and continuous improvement.

Summary of Observations and Recommendations

A Fire Master Plan intends to provide a series of recommendations which are generally implemented over a five to ten-year timeframe. The following recommendations are drawn from findings presented throughout the report. They are grouped into three categories according to priority: critical, short-term, and long-term.

Progress on the implementation of recommendations should be monitored and adjusted to reflect available funding and administrative capacity. Most of the recommendations presented in this report are achievable using existing staff or members' time and will therefore not pose significant additional costs to the community. However, there are some recommendations that are substantial and will require review of potential funding strategies.

Costs are estimates only and will require further investigation. 'Cost neutral' refers to the use of internal staff through a normal work schedule. This would include support from other internal departments that may or may not require additional resources (costs) to complete. Undertaking of these cost neutral recommendations are also contingent upon staff availability.

A timeframe within 1 – 72 months (1 – 6 years) has been assigned to each recommendation. These recommendations are subject to the Town's corporate priorities, Council's budget approval, and the current rate and scale of community growth.

Their implementation is contingent upon alignment with Council-endorsed strategic direction, the availability of approved funding, and demonstrated growth-related service demands. Accordingly, the recommendations reflect a conditional and adaptable approach that allows the Town to respond appropriately as priorities, financial capacity, and growth pressures evolve.

Level	Timeline	Meaning
High	1–12 months	Immediate safety/compliance/operational risk; must act fast.
Medium	12–36 months	Important improvements: delay increases exposure.
Low	36–72 months	Enhances performance; flexible timing.
Future Planning	Beyond the FMP timeline	Long-term planning consideration; low immediate impact.

Note: Recommendations are numbered according to their order of appearance in the report.

Goal #1: Administration

Recommendation #1a: Revise the Town of Milton’s Establishing and Regulating By-law to formally incorporate Council-approved response performance objectives, clearly differentiating between urban and rural settlement areas to reflect the unique service delivery challenges and capabilities across the municipality.

Suggested completion: 6-12 months

Recommendation #1b: Develop and adopt a Standard of Cover (SOC) policy that clearly outlines response performance benchmarks, deployment strategies, and staffing requirements across different risk zones and occupancy types.

Suggested completion: 6-12 months

Cost: Neutral

Strategic Objective – Administration

Recommendation # 2a: Phase in 1.5 FTEs for divisional administrative staffing to support internal coordination, program deliver, regulatory compliance, and operational efficiency across all branches of MFRS.

Suggested completion: 12-36 months

Cost: Annual cost of \$55,115 - \$68,894 / FTE (2024 rates) plus benefits. Net increase \$82,673 - \$103,341 (plus benefits).

Strategic Objective: Administration

Recommendation #2b: Create a dedicated management position, such as an Assistant Chief or Division Chief of Composite Operations, responsible for the administration, coordination, and development of the Paid-On-Call firefighter program.

Suggested completion: 24-36 months

Cost: Annual cost of \$139,713 (2024 rates) plus benefits

Strategic Objective: Administration

Recommendation #3: Implement a formal Succession Planning and Leadership Development Program that identifies, mentors, and prepares future leaders across all divisions. This program should include career pathing, targeted training, leadership shadowing, and secondment opportunities tied to the Fire Master Plan implementation timeline and operational growth triggers.

Suggested completion: 12-24 months

Cost: Cost neutral

Strategic Objective: Administration

Goal #2: Public Education

Recommendation #4a: Use the findings of the Community Risk Assessment (CRA), incident data, and geographic analysis to inform the development of annual public fire safety education plans. Programming should be updated each year to reflect emerging risks, demographic shifts, and local trends in fire incidents, smoke alarm compliance, and vulnerable occupancy types.

Recommendation #4b: Implement a GIS-based predictive analysis model and develop a participant tracking and evaluation system to monitor the reach and impact of public education programs.

Suggested completion: 1- 12 months

Cost: None

Strategic Objective: Public Education

Recommendation #5a: Develop and deliver targeted fire safety programs tailored for vulnerable and equity-deserving populations, incorporating input from community stakeholders, cultural organizations, and social service providers.

Recommendation #5b: Leverage community data, GIS mapping, and stakeholder engagement to guide the development of fire safety programming tailored to the needs of specific neighbourhoods and population groups.

Suggested completion: 12-24 months

Cost: Minimal – may be costs associated with translation services

Strategic Objective: Public Education

Goal #3: Fire Prevention & Code Enforcement

Recommendation #6: Utilize predictive analytics using historical data, risk mapping, and response data, identify higher risk areas for targeted code enforcement inspections.

Suggested completion: 24-36 months

Cost: None – can be built in to work schedules of existing staff.

Strategic Objective: Fire Prevention and Code Enforcement.

Recommendation #7: Develop and implement a phased-in proactive fire inspection program for all building classifications, targeting properties and occupancies based on risk categorization.

Suggested completion: 36-72 months

Cost: None. Inspections to be conducted by existing and future staff (see Recommendation #8 below).

Strategic Objective: Fire Prevention and Code Enforcement.

Recommendation #8: Implement a phased expansion of Fire Prevention staffing, aligned with current service deficits.

Suggested completion: 36-72 in line with new fire station development

Cost: Cost per fire inspector is \$66,392-\$120,712 (2024 rates). The additional salary cost at the end of the phase-in would be approximately \$482,848 (plus benefits) to the operating budget.

Strategic Objective: Fire Prevention and Code Enforcement

Goal #4: Operations

Recommendation #11: Implement a systematic process to monitor and analyze fire incident trends related to high-rise buildings and ARUs, including response frequency, nature of incidents, and resource deployment per event. This information should be integrated into annual operations reviews, staffing and apparatus planning, and targeted training and public education initiatives.

Suggested completion: 12-18 months

Cost: varies on scope and internal vs external

Strategic Objective: Operations

Recommendation #12: Continue to regularly update tiered medical response framework through renewed collaboration with Halton Region Paramedic Services, and the MFRS medical director to refine response protocols. Clarify the scope of clinical practice for First Responders and ensure alignment with system-wide changes such as the implementation of MPDS.

Suggested completion: 1-12 months then ongoing.

Cost: neutral

Strategic Objective: Operations

Recommendation #13: Maintain formalized service agreements with third-party providers or neighbouring fire departments that possess technician-level capabilities in identified technical rescue disciplines.

Suggested completion: 12-24 months

Cost: will vary dependent on the agreement and discipline

Strategic Objective: Operations

Recommendation #14a: Expand the pre-fire planning program to include all buildings identified as risks within the Community Risk Assessment (CRA), ensuring complete coverage of high-priority and high-hazard occupancies.

Recommendation #14b: Digitize all pre-plans and integrate them into CAD/GIS systems to allow mobile access for operational staff, with standardized data fields covering standpipes, key boxes, electric vehicle charging stations, photovoltaic arrays, and other critical building information, along with detailed tactical considerations such as attack stair locations, refuge floors, and smoke control systems.

Recommendation #14c: Establish defined triggers for post-incident plan updates and other significant changes, and implement a KPI dashboard to track program performance, including percentage of first-due high-risk buildings with current surveys and median survey age. Conduct regular joint reviews between Fire Prevention, Training, and Dispatch divisions to ensure the plans remain accurate and operationally relevant.

Suggested completion: 12-60 months

Cost: Cost to digitize if external

Strategic Objective: Operations

Recommendation #21: Identify and implement opportunities to improve assembly time or investigate opportunities (such as new station designs, countdown clocks, etc.) to improve assembly time and implement regular monitoring and reporting of assembly time performance by station, shift, and incident category.

Suggested completion: 12-24 months

Cost: Varies on scope

Strategic Objective: Operations

Recommendation #22: Implement a formal concurrent call load monitoring process, using dispatch and incident data analytics to assess call overlap trends by time of day, location, and station impact. This data should be reviewed annually and integrated into resource deployment planning, station siting strategies, and staffing forecasts to determine when new apparatus, personnel, or facility expansion is warranted.

Suggested completion: 1-12- months

Cost: Varies on scope

Strategic Objective: Operations

Recommendation #23: MFRS should proceed with the planning, design, and construction of Fire Station 6 within the next 60-72 months.

Suggested completion: 60-72 months

Cost: Varies on scope

Strategic Objective: Operations

Recommendation #24: Plan for the establishment of Fire Station 7 as a longer-term initiative beyond the current Fire Master Plan horizon, including preliminary site identification, land acquisition considerations, and early design planning. Construction and commissioning should be anticipated beyond the timeframe of this Plan, with the timing to be reassessed and advanced if growth rates or service demand accelerate in the southeast area.

Suggested completion: Beyond 72- months identified in the FMP

Cost: Varies on scope

Strategic Objective: Operations

Recommendation #25: Incorporate phased hiring plans for Station 6 and Station 7 into its 10-year staffing forecast, with annual adjustments reviewed during the Town's budget cycle.

Suggested completion: 12-72 months

Cost: Wage cost per firefighter \$111,771 (2024) plus benefits

Strategic Objective: Operations

Recommendation #26: Temporarily staff a second response vehicle at Station 1, using the phased hiring of full-time firefighters between 2026 and 2028, as outlined in the staffing forecast in recommendation 25. This second unit should remain operational until a full-time response vehicle can be relocated to new station 6.

Suggested completion: 12-36 months

Cost: neutral

Strategic Objective: Operations

Goal #5: Emergency Management

Recommendation #9: Develop and implement a formal, municipality-wide Business Continuity Planning (BCP) framework, requiring all Town divisions to create, maintain, and regularly update business continuity plans tailored to their core functions and operational risks.

Suggested completion: 12-24 months

Cost: varies on scope and internal vs external

Strategic Objective: Emergency Management

Recommendation #10: Continue to ensure the Emergency Management Program reflects current and emerging threats.

Suggested completion: 12-18 months

Cost: neutral

Strategic Objective: Emergency Management

Goal #6: Communications

Recommendation #17a: Continue to enhance its dispatch operations by advancing workflow efficiency, adopting emerging technologies, and strengthening ongoing staff training initiatives to support high-performance emergency communications.

Recommendation #17b: Adopt a two-person dispatch model that clearly delineates the roles of call taker and dispatcher to enhance operational efficiency and reduce alarm processing times.

Recommendation #17c: Continue to monitor, analyze, and improve alarm handling performance with the goal of achieving the established benchmark of 64 seconds or less for emergency calls, 90% of the time.

Suggested completion: 1-12 months (ongoing)

Cost: minimal

Strategic Objective: Dispatch

Recommendation #18a: Provide for a virtual expansion of dispatch capacity by utilizing the backup centre at Station 2 as a temporary solution.

Recommendation #18b: Establish a new purpose-built Communications Centre to support long-term dispatch growth and regional capabilities.

Suggested completion: Depending on growth and expansion

Cost: To be determined as part of a new station build

Strategic Objective: Dispatch

Recommendation #19a: Proactively explore opportunities to expand its dispatch service offerings to surrounding fire departments and municipalities through a structured business development and feasibility assessment process.

Recommendation #19b: Develop a comprehensive financial model to support the expansion of its Communications Centre and regional dispatch services, utilizing the Hybrid Model (Base Fee + Per-Call or Tiered Add-Ons) as the preferred cost recovery approach.

Recommendation #19c: Develop and implement a comprehensive legal and governance framework to guide the expansion of MFRS's Communications Centre services to external municipalities including an enforceable Service Level Agreements (SLAs), formal governance structures, and legal oversight aligned with applicable provincial legislation and risk management standards.

Suggested completion: 24-36 months

Cost: Cost neutral – staff time

Strategic Objective: Dispatch

Goal #7: Training & Professional Development

Recommendation #15: Complete a thorough analysis of existing training instructor capacity, including course development, face-to face training, remote training, practical and theory assessments and proctoring against the demand for training as outlines in the approved annual training calendar. Additional training officer capacity, whether full-time or part-time may be required to meet the increasing training demands for MFRS.

Suggested completion: 36-60 months

Cost: Wage (2024) per training officer is \$120,712 plus benefits.

Strategic Objective: Training and Professional Development

Recommendation #16: Pursue the establishment of a municipally supported fire training facility with Class B live fire capabilities, either independently or through partnerships with neighbouring municipalities, educational institutions, or third-party partnerships.

Suggested completion: Beyond 72 months identified in the FMP

Cost: Estimated \$13 million depending on size and scope of project.

Strategic Objective: Training and Professional Development

Goal #8: Facilities, Apparatus & Equipment

Recommendation #20: Explore a formal partnership with the Town's Public Works or Transit Departments to secure dedicated or shared space within an existing or future municipal facility for apparatus maintenance, inspections, and mechanical support.

Suggested completion: 24-36 months

Cost: Costs will vary depending on the need for added infrastructure within the space

Strategic Objective: Facilities, Apparatus and Equipment

Recommendations		Months							
		1	12	24	36	48	60	72	Future
Administration									
1a	Revise the Town of Milton's Establishing and Regulating By-law to formally incorporate Council-approved response performance objectives, clearly differentiating between urban and rural settlement areas to reflect the unique service delivery challenges and capabilities across the municipality.								
1b	Develop and adopt a Standard of Cover (SOC) policy that clearly outlines response performance benchmarks, deployment strategies, and staffing requirements across different risk zones and occupancy types.								
2a	Phase in 1.5 FTEs for divisional administrative staffing to support internal coordination, program deliver, regulatory compliance, and operational efficiency across all branches of MFRS.								
2b	Create a dedicated management position, such as an Assistant Chief or Division Chief of Composite Operations, responsible for the administration, coordination, and development of the Paid-On-Call firefighter program.								
3	Implement a formal Succession Planning and Leadership Development Program that identifies, mentors, and prepares future leaders across all divisions. This program should include career pathing, targeted training, leadership shadowing, and secondment opportunities tied to the Fire Master Plan implementation timeline and operational growth triggers.								

Recommendations		Months							
		1	12	24	36	48	60	72	Future
Public Education									
4a	Use the findings of the Community Risk Assessment (CRA), incident data, and geographic analysis to inform the development of annual public fire safety education plans. Programming should be updated each year to reflect emerging risks, demographic shifts, and local trends in fire incidents, smoke alarm compliance, and vulnerable occupancy types.								
4b	Implement a GIS-based predictive analysis model and develop a participant tracking and evaluation system to monitor the reach and impact of public education programs.								
5a	Develop and deliver targeted fire safety programs tailored for vulnerable and equity-deserving populations, incorporating input from community stakeholders, cultural organizations, and social service providers.								
5b	Leverage community data, GIS mapping, and stakeholder engagement to guide the development of fire safety programming tailored to the needs of specific neighbourhoods and population groups.								
Fire Prevention & Code Enforcement									
6	Utilize predictive analytics using historical data, risk mapping, and response data, identify higher risk areas for targeted code enforcement inspections.								
7	Develop and implement a phased-in proactive fire inspection program for all building classifications, targeting properties and occupancies depending on risk categorization.								
8	Implement a phased expansion of Fire Prevention staffing, aligned with current service deficits.								

Recommendations		Months							
		1	12	24	36	48	60	72	Future
Operations									
11	Implement a systematic process to monitor and analyze fire incident trends related to high-rise buildings and ARUs, including response frequency, nature of incidents, and resource deployment per event. This information should be integrated into annual operations reviews, staffing and apparatus planning, and targeted training and public education initiatives.								
12	Continue to regularly update tiered medical response framework through renewed collaboration with Halton Region Paramedic Services, and the MFRS medical director to refine response protocols. Clarify the scope of clinical practice for First Responders and ensure alignment with system-wide changes such as the implementation of MPDS.								
13	Maintain formalized service agreements with third-party providers or neighbouring fire departments that possess technician-level capabilities in identified technical rescue disciplines.								
14a	Expand the pre-fire planning program to include all buildings identified as risks within the Community Risk Assessment (CRA), ensuring complete coverage of high-priority and high-hazard occupancies.								
14b	Digitize all pre-plans and integrate them into CAD/GIS systems to allow mobile access for operational staff, with standardized data fields covering standpipes, key boxes, electric vehicle charging stations, photovoltaic arrays, and other critical building information, along with detailed tactical considerations such as attack stair locations, refuge floors, and smoke control systems.								
14c	Establish defined triggers for post-incident plan updates and other significant changes, and implement a KPI dashboard to track program performance, including percentage of first-due high-risk buildings with current surveys and median survey age. Conduct regular joint reviews between Fire Prevention, Training, and Dispatch divisions to ensure the plans remain accurate and operationally relevant.								

Recommendations		Months							
		1	12	24	36	48	60	72	Future
Operations									
21	Identify and implement opportunities to improve assembly time or investigate opportunities (such as new station designs, countdown clocks, etc.) to improve assembly time and implement regular monitoring and reporting of assembly time performance by station, shift, and incident category.								
22	Implement a formal concurrent call load monitoring process, using dispatch and incident data analytics to assess call overlap trends by time of day, location, and station impact. This data should be reviewed annually and integrated into resource deployment planning, station siting strategies, and staffing forecasts to determine when new apparatus, personnel, or facility expansion is warranted.								
23	MFRS should proceed with the planning, design, and construction of Fire Station 6 within the next 60-72months.								
24	Plan for the establishment of Fire Station 7 as a longer-term initiative beyond the current Fire Master Plan horizon, including preliminary site identification, land acquisition considerations, and early design planning. Construction and commissioning should be anticipated beyond the timeframe of this Plan, with the timing to be reassessed and advanced if growth rates or service demand accelerate in the southeast area.								
25	Incorporate phased hiring plans for Station 6 and Station 7 into its 10-year staffing forecast, with annual adjustments reviewed during the Town's budget cycle.								
26	Temporarily staff a second response vehicle at Station 1, using the phased hiring of full-time firefighters between 2026 and 2028, as outlined in the staffing forecast in recommendation 25. This second unit should remain operational until a full-time response vehicle can be relocated to new station 6.								

Recommendations		Months							
		1	12	24	36	48	60	72	Future
Emergency Management									
9	Develop and implement a formal, municipality-wide Business Continuity Planning (BCP) framework, requiring all Town divisions to create, maintain, and regularly update business continuity plans tailored to their core functions and operational risks.								
10	Continue to ensure the Emergency Management Program reflects current and emerging threats.								
Communications									
17a	Continue to enhance its dispatch operations by advancing workflow efficiency, adopting emerging technologies, and strengthening ongoing staff training initiatives to support high-performance emergency communications.								
17b	Adopt a two-person dispatch model that clearly delineates the roles of call taker and dispatcher to enhance operational efficiency and reduce alarm processing times.								
17c	Continue to monitor, analyze, and improve alarm handling performance with the goal of achieving the established benchmark of 64 seconds or less for emergency calls, 90% of the time.								
18a	Provide for a virtual expansion of dispatch capacity by utilizing the backup centre at Station 2 as a temporary solution.								
18b	Establish a new purpose-built Communications Centre to support long-term dispatch growth and regional capabilities.								

Recommendations		Months							
		1	12	24	36	48	60	72	Future
Communications									
19a	Proactively explore opportunities to expand its dispatch service offerings to surrounding fire departments and municipalities through a structured business development and feasibility assessment process.								
19b	Develop a comprehensive financial model to support the expansion of its Communications Centre and regional dispatch services, utilizing the Hybrid Model (Base Fee + Per-Call or Tiered Add-Ons) as the preferred cost recovery approach.								
19c	Develop and implement a comprehensive legal and governance framework to guide the expansion of MFRS's Communications Centre services to external municipalities including an enforceable Service Level Agreements (SLAs), formal governance structures, and legal oversight aligned with applicable provincial legislation and risk management standards.								
Training									
15	Complete a thorough analysis of existing training instructor capacity, including course development, face-to face training, remote training, practical and theory assessments and proctoring against the demand for training as outlines in the approved annual training calendar. Additional training officer capacity, whether full-time of part-time may be required to meet the increasing training demands for MFRS.								
16	Pursue the establishment of a municipally supported fire training facility with Class B live fire capabilities, either independently or through partnerships with neighbouring municipalities, educational institutions, or third-party partnerships.								
Facilities, Apparatus and Equipment									
20	Explore a formal partnership with the Town's Public Works or Transit Departments to secure dedicated or shared space within an existing or future municipal facility for apparatus maintenance, inspections, and mechanical support.								

Conclusion

The Fire Master Plan provides a roadmap of 30 recommendations across the key areas of administration, public education, fire prevention and code enforcement, emergency management, operations, training and professional development, dispatch, and facilities, apparatus & equipment. These recommendations are phased over a 6-year horizon to ensure that MFRS continues to meet legislative requirements while adapting to Milton's rapid growth and evolving risk environment. Many of the initiatives are cost-neutral or incremental, focusing on policy development, improved processes, and strategic staffing enhancements, while others involve longer-term investments in staffing, facilities, apparatus, and communications infrastructure.

By implementing these recommendations, the Town of Milton will be positioned to establish clear service levels, enhance public education, and fire prevention programming, modernize dispatch operations, and strengthen operational performance through new stations, phased staffing, and targeted training. The Plan also emphasizes succession planning, leadership development, and business continuity as essential components of organizational resilience. Collectively, these actions will ensure MFRS maintains its reputation as a professional, dedicated, and adaptable fire service, capable of delivering excellent value to residents while safeguarding community safety well into the future.

Although each recommendation has a corresponding timeframe, it is important to note this FMP needs to be revisited on a regular basis to confirm that the observations and recommendations remain relevant. The recommendations outlined in this FMP will better position MFRS to mitigate and manage community risks, monitor response capabilities and performance, and maintain excellent community relationships and 'value for money.' Notwithstanding operational observations around emergency response performance, achievement of an effective response force and the MFRS is serving the community well.

Finally, our interactions with the Town of Milton staff revealed a highly professional and dedicated organization that is committed to providing the best possible service to the citizens of the Town.

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SECTION 1

INTRODUCTION

1.1 Background and Significance

Community leaders across Canada continue to search for innovative approaches to improve the efficiency and effectiveness of service delivery. Effectiveness refers to the ability to achieve the desired results or outcomes, while efficiency refers to optimizing the use of available resources – whether it is time, money, or effort. The notion of efficiency in service delivery can also be described as ‘doing more for less’ or ‘value for money.’

Elected officials, CAOs, directors and managers are faced with the ongoing challenge of achieving efficient and effective service delivery models. Public safety is often one of the top priorities within most communities, but achieving this goal comes at a relatively high cost. The services charged with achieving this outcome, including police, fire, EMS, and emergency management, are essential components of any community’s social safety net. Service effectiveness is not an option. However, the need for fiscal discretion and to review operational efficiency and effectiveness cannot be ignored. Senior community officials must continue to be vigilant in their search for innovative and sustainable practices and finding the balance between service levels and expenditures to ensure their citizens are getting ‘value for money.’

1.2 Goals and Objectives

The goal of developing this Fire Master Plan (FMP) is to create a strategic plan by conducting a comprehensive community risk assessment and review the current capabilities of the fire service. The goal of the FMP is to provide a systematic and comprehensive approach to evaluate current response capabilities by identifying and mitigating risks and assist in formulating and communicating strategic directions for the fire service, while highlighting opportunities for improved service delivery. The FMP will also assist in conveying information to the public, staff, and municipal council about what to expect in the municipality’s approach to fire and emergency service planning, service delivery model, policy, and development.

While risks are the basis for triggering response decisions, our analysis also investigated the needs of the community, providing a point of reference upon which future decisions and priorities can be evaluated and implemented. This includes identifying priorities, challenges, and opportunities for the improvement of the delivery of emergency services to the community, businesses, and overall public safety. This plan also considers applicable legislation, industry-leading practices, and standards along with current and anticipated risks to provide unbiased analysis and evidence-based recommendations.

Ultimately, this FMP determines options towards an optimum service delivery model and serves as a ‘blueprint’ for the municipality to be more effective and efficient in the delivery of emergency services through current and future challenges.

1.3 Project Scope

This Fire Master Plan will serve as a comprehensive, strategic framework to guide the delivery and evolution of fire and emergency services over the next 5 to 10 years. Its primary objective is to develop a comprehensive plan to reduce risk and optimize community safety through aligning services with community risk profiles, projected population growth, legislative requirements, and recognized best practices in the fire service industry.

This plan is informed by an in-depth assessment of current response capabilities, utilizing insights from the Community Risk Assessment (CRA) to evaluate the department’s ability to meet present and future service demands. Historical response data, performance trends, and compliance with industry standards will be closely examined to ensure that services are not only responsive but also proactive in mitigating risk and protecting life, property, and the environment.

This strategic roadmap will serve as a foundational tool for Council and senior leadership in prioritizing service enhancements and achieving long-term public safety goals. Key components of the Fire Master Plan include:

- **Demand Zone Analysis:** Evaluate emergency service coverage, response times, and geographic demand to identify gaps and optimize station locations.
- **Comprehensive Service and Program Review:** Assess the effectiveness and efficiency of all fire service divisions, including operations, fire prevention, public education, training, communications and administration.
- **Staffing Model Evaluation:** Review current staffing levels and deployment strategies to ensure appropriate and safe 24/7 coverage aligned with community needs and legislative requirements.
- **Resource Alignment:** Identify opportunities to better align personnel, apparatus, and facilities with current and future service demands.
- **Cost Efficiency and Avoidance Measures:** Explore strategies to reduce operational costs, defer capital expenditures, and enhance financial sustainability without compromising service quality.
- **Evidence-Based Recommendations:** Develop actionable, data-driven recommendations grounded in industry standards, best practices, and community risk to guide strategic decision-making and resource planning.

- **Strategic Investment Planning:** Support long-term capital and operating planning by identifying service improvement priorities and critical infrastructure or staffing needs.
- **Governance and Policy Alignment:** Ensure recommendations align with applicable legislation, municipal priorities, and long-range planning frameworks.

1.4 Standards and References

This plan considers the following references and standards:

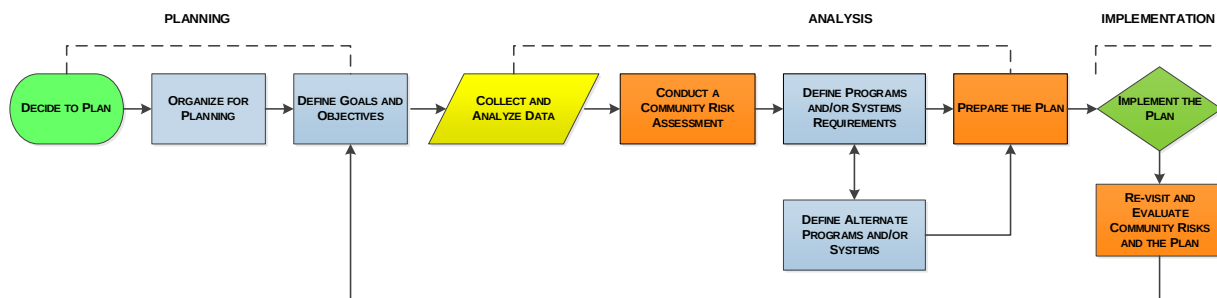
- Commission on Fire Accreditation International
- Canadian Standards Association (CSA)
- Fire Underwriters Survey (FUS)
- Ontario Emergency Management and Civil Protection
- Ontario Fire Protection and Prevention Act
 - O. Reg. 213/07: Ontario Fire Code
 - O. Reg. 378/18: Community Risk Assessments
 - O. Reg. 364/13: Mandatory Inspection – Fire Drill in Vulnerable Occupancy
 - O. Reg. 365/13: Mandatory Assessment of Complaints and Requests for Approval
 - O. Reg. 343/22: Firefighter Certification
- Fire Marshal Directives
- Town of Milton Community Risk Assessment
- Town of Milton Establishing and Regulating Bylaw
- Town of Milton Official Plan
 - Boyne Survey Secondary Plan
 - Trafalgar Secondary Plan
- Town of Milton Asset Management Plan
- Town of Milton Budget Documents
- National Fire Protection Association (NFPA)
- Ontario Occupational Health and Safety Act
- Ontario Building Code
- Underwriters Laboratories (UL/ULC)

1.5 Fire Master Plan Process

The following diagram illustrates the process used to complete this plan. A Fire Master Plan is sometimes referred to as a ‘road map’ for the future and used as a guiding document for current and future department leaders and decision-makers.

As outlined in the implementation phase, it is strongly recommended that this plan be reviewed and assessed at least annually, or more frequently in response to significant changes, such as population growth or increased residential and industrial development, that may impact community risk. When feasible, a third-party review and update should be conducted at the five-year mark to provide an objective evaluation of operations and enhance the credibility of the master planning process.

Figure 2: Fire Master Plan Process



1.6 Consultative Process

1.6.1 Community and Fire Station Tour

The community and station tours focused on the overall footprint, topography, transportation infrastructure of the municipality and the various response zones. Touring the stations provided an opportunity to conduct a general condition and operational functionality assessment on each station.

1.6.2 Targeted Interviews

Targeted interviews were conducted with fire service leadership and various Town department managers to gather relevant data and insights. An interview guide was used to conduct the interviews to promote open dialogue about the community, its risks, and general concerns related to municipal operations.

Table 1: Targeted Interview List

No.	Name	Job Title
1	Peter Gatto	Fire Chief
2	Gordon Fowler	Deputy Fire Chief
3	Matt Townsend	Deputy Fire Chief
4	Ryan Smith	Division Chief - Communications
5	Ted Michael	Division Chief – Fire Prevention
6	Shawn Matheson	Division Chief - Training
7	Gord Harse	Division Chief - Operations
8	Amanda Robinson	Supervisor of Administration
9	Steven Reynolds	District Chief (PT) Operations
10	Rob Gasper	Director – Facilities, Operations & Environment
11	Kristene Scott	Commissioner- Corporate Services
12	Janine Gallagher	Director- Human Resources
13	Andy Scott	Senior Director – Economic Development

1.6.2.1 Summary of Interviews

The FMP process began with a series of interviews involving MFRS administration, senior fire officers, and select members of the Town of Milton’s senior administration. These interviews provided an opportunity to gather insights on various aspects of MFRS operations. In total, 13 individuals were interviewed.

The feedback collected addressed both general observations about MFRS and specific insights related to each participant’s area of expertise. Overall, there was strong support and commitment expressed toward MFRS. Interviews with MFRS staff emphasized the importance of tailoring programs and standards to meet Milton’s unique needs and circumstances.

A consistent theme throughout the interviews was the need for growth and development across all program areas to ensure the organization remains well-positioned to meet current demands and future challenges.

Rapid Growth and Evolving Service Needs

The Town of Milton is undergoing significant residential and industrial expansion, including the addition of a post-secondary campus and advanced data centre infrastructure. This growth presents exciting opportunities but also places increasing demands on Milton Fire & Rescue Services (MFRS).

Areas such as medical tiered response and high-rise coverage are emerging as priorities for enhanced service delivery. While public perception of service levels remains high, there is a recognized need to better align resources with community risk and expectations. Leaders consistently emphasized the importance of phased growth planning and risk-informed deployment models to support sustainable service delivery.

Staffing and Workforce Development

Milton's rapid development highlights the importance of strengthening both frontline and administrative staffing. Challenges in recruiting and retaining part-time personnel, coupled with the need for experienced staff, underscore the urgency of investing in workforce development. Current efforts in succession planning are focused on cultivating leadership, emotional intelligence, and internal promotion pathways. Continued emphasis on building project management and supervisory capacity will help ensure long-term organizational resilience.

Infrastructure and Facility Optimization

While MFRS maintains well-equipped apparatus, several facilities are nearing capacity. For example, Station 3 is fully utilized, and maintenance operations are conducted in spaces not originally designed for vehicle servicing. Administrative and logistics areas are limited, and the Communications Centre has reached its physical limits. There is strong support for strategic investment in new stations, joint-use facilities, and maintenance infrastructure, guided by long-term capital planning.

Technology and Data Integration

MFRS has made meaningful progress in adopting new technologies, including upgraded dispatch terminals, SCBA systems, and training platforms like Vector. The transition to NG911 is another positive step. However, opportunities remain to improve data integration and performance tracking. A centralized, customizable system would enhance reporting, analytics, and decision-making across platforms such as FDM and Workday, supporting transparency and continuous improvement.

Organizational Culture and Governance

MFRS benefits from a strong internal culture rooted in adaptability, hands-on training, and commitment to service. To build on this foundation, there is a shared desire to strengthen internal communication, define key performance indicators, and formalize service level expectations. Enhancing governance structures and deepening Council engagement will be essential to aligning policy, leadership development, and strategic direction with the town's evolving needs.

1.7 Study Considerations

The following factors that affected both the assessment and effective mitigation of risk were considered and assessed:

Community-Specific Considerations

- Total geographical area of review
- Population and future growth
- Community risk factors
- Community demographic information
- Development and area structure plans
- Multi-jurisdictional requirements and cooperation
- Current and future development impact on risks and response
- Financial resources and constraints
- Impacts of government legislation
- Bylaws
- Economic factors
- Tourism
- Construction
- Industrial activity
- Utilities
- Retail businesses and other services
- Agriculture
- Buildings and structures concentrating on high-risk demands, including business, assembly occupancies, etc.
- Municipal emergency management plans

Department-Specific Considerations

- Geographic and physical boundaries for response
- Fire service focused reports previously conducted (2021 Master Plan, 2025 FUS)
- Standards of cover
- Budgets
- Current staff rosters with qualifications
- Fire station locations and other infrastructure
- Department structure
- Service delivery models
- Apparatus and equipment inventory, and future needs
- Building space requirements
- Operation staffing and administrative needs
- Bylaw, policies, and procedures
- Fire prevention & public education
- Emergency core service response
- Health and wellness
- Training and recruitment records and standards
- Succession planning
- Prevention programs such as inspections, education, and enforcement
- Records and data management
- Emergency services standard operating guidelines and procedures

1.8 Municipal Comparative Analysis

An industry peer comparative analysis was conducted as a method of benchmarking the performance of MFRS alongside similar municipalities. The benchmarks included budgets, performance, effectiveness, and efficiencies. While fire and emergency services share the common goal of protecting life and property, each community has unique features influencing how they achieve this objective.

The communities who participated, along with the Town of Milton, included:

- City of Guelph
- Town of Oakville
- City of Burlington
- Town of Halton Hills
- Municipality of Clarington
- Municipality of Chatham-Kent

To develop this municipal comparison review, we used 2020-2024 information collected from each of the participating communities. Recognizing each municipality has unique attributes, such as risk factors, historical decisions, and community profiles, comparing MFRS to that of similar community remains an effective way to identify relative service levels, costs, and trends. The community comparative analysis provides a reference, rather than an operational model, focusing on several benchmarks including budgets, service areas, service, levels, and staffing levels.

Our main criteria for collecting information are:

- Population – Utilizing 2021 Census data for consistency
- Budgets – 2024 reported budgets from municipal websites
- Department size
- Type (full-time, part-time or combination)
- Department staffing

Additional information includes:

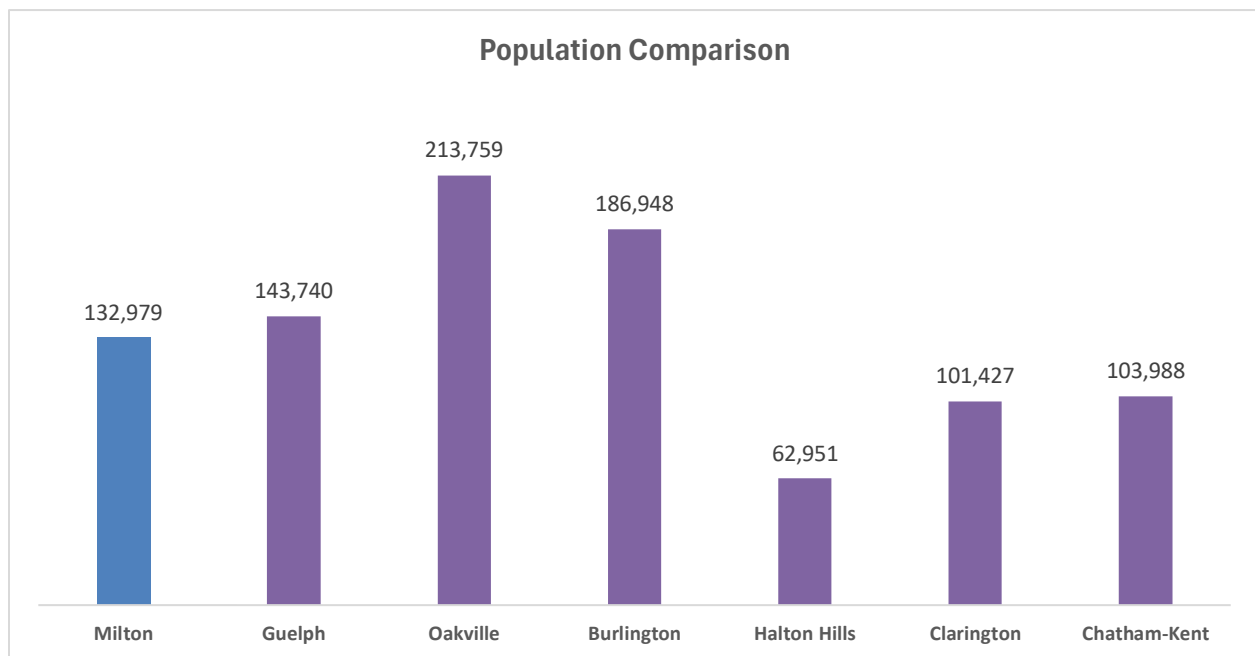
- Number of fire stations
- Call volume
- Call types

See Appendix C: Community Comparative Analysis Results

Table 2: Participating in Community Comparatives

Community	Population (2021 Census)	Land Area (km ²)	Area of Response (km ²)
Town of Milton	132,979	365.50	365.50
City of Guelph	143,740	79.57	87.22
Town of Oakville	213,759	138.94	138.94
City of Burlington	186,948	186.12	186.12
Town of Halton Hills	62,951	276.81	276.81
Municipality of Clarington	101,427	610.84	610.84
Municipality of Chatham-Kent	103,988	2,451.90	2,600

Image 1: Population Comparisons (2021 Census)



1.8.1 Community Comparative Analysis Summary

In 2024, the seven municipalities included in the comparative analysis reported operating budgets ranging from \$69.9 million to \$550 million. The Town of Milton ranks fifth out of seven, with an annual operating budget of \$192.3 million. Similarly, the Milton Fire & Rescue Services (MFRS) ranks fifth in fire department operating budgets, with \$15.6 million, compared to a range of \$10.3 million to \$46.9 million across the surveyed municipalities.

MFRS's budget represents 8.14% of Milton's total operating budget. On a per capita basis, MFRS operates at \$117.79 per resident, the lowest cost among the municipalities analyzed. The average per capita expenditure across the group is \$152.42.

Staffing Model and Operational Capacity

Milton operates with a lean composite staffing model, particularly in suppression, fire prevention, and support services. The department includes:

- 84 full-time and 70 part-time suppression staff across five stations
- 5 full-time fire prevention officers
- 4 full-time training staff
- 2.5 support staff and 2 full-time mechanics

In contrast, career departments such as Guelph and Oakville employ 147 and 240 full-time suppression staff respectively, reflecting their fully career-based structures. Milton's high reliance on part-time staff presents unique operational and training challenges not typically encountered by career departments.

Fire prevention staffing also lags behind comparable municipalities, with Milton's three full-time officers compared to Guelph's seven and Oakville's twelve, despite similar growth pressures. While training resources are relatively strong, administrative, and mechanical support remains limited. Other municipalities, such as Burlington and Clarington, benefit from broader staffing depth and centralized support services like dispatch and IT.

Milton's staffing approach emphasizes efficiency and incremental growth but may face constraints in sustaining service levels as community demands and risk profiles evolve.

Call-Volume and Service Capacity

Milton's total call volume has increased from 1,809 in 2020 to 2,796 in 2024, marking a 55% rise over five years. Despite this growth, Milton's call volume remains significantly lower than more urbanized municipalities such as Oakville (11,854 calls) and Burlington (13,066 calls).

Notably, only 11.4% of Milton's calls in 2024 were for medical response, an unusually lower proportion compared to other similar municipalities where EMS calls typically dominate (over 50% of total volume). This discrepancy may be attributed to differences in tiered medical response protocols or incident classification practices.

Milton responded to only 318 EMS-related calls in 2024, compared to Guelph (5,064), Clarington (801), and Chatham-Kent (628). This limited EMS engagement reflects Milton's ongoing transition toward a full-tiered medical response model. As this transition progresses, EMS call volumes are expected to rise significantly.

Comparative Limitations

It is important to note that no standardized framework exists for categorizing fire service incidents. As such, these statistics should be interpreted as general reference points rather than precise comparisons. Variations in organizational structure, service levels, incident classification, and financial systems across municipalities limit the accuracy of direct comparisons. Therefore, this analysis should be viewed as a high-level overview, and direct equivalency is strongly discouraged.

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SECTION 2

THE ENVIRONMENT

2.1 Community Overview

The Town of Milton is a rapidly growing community in southern area - part of the Halton Region and the Greater Toronto Area (GTA). According to Statistics Canada, Milton had a population of 132,979³ covering approximately 363.83 km², resulting in a population density of about 365.5 persons per square kilometer.

The community comprises of 25 distinct neighbourhoods, featuring vibrant urban centres, established residential areas, rural landscapes, and industrial zones.

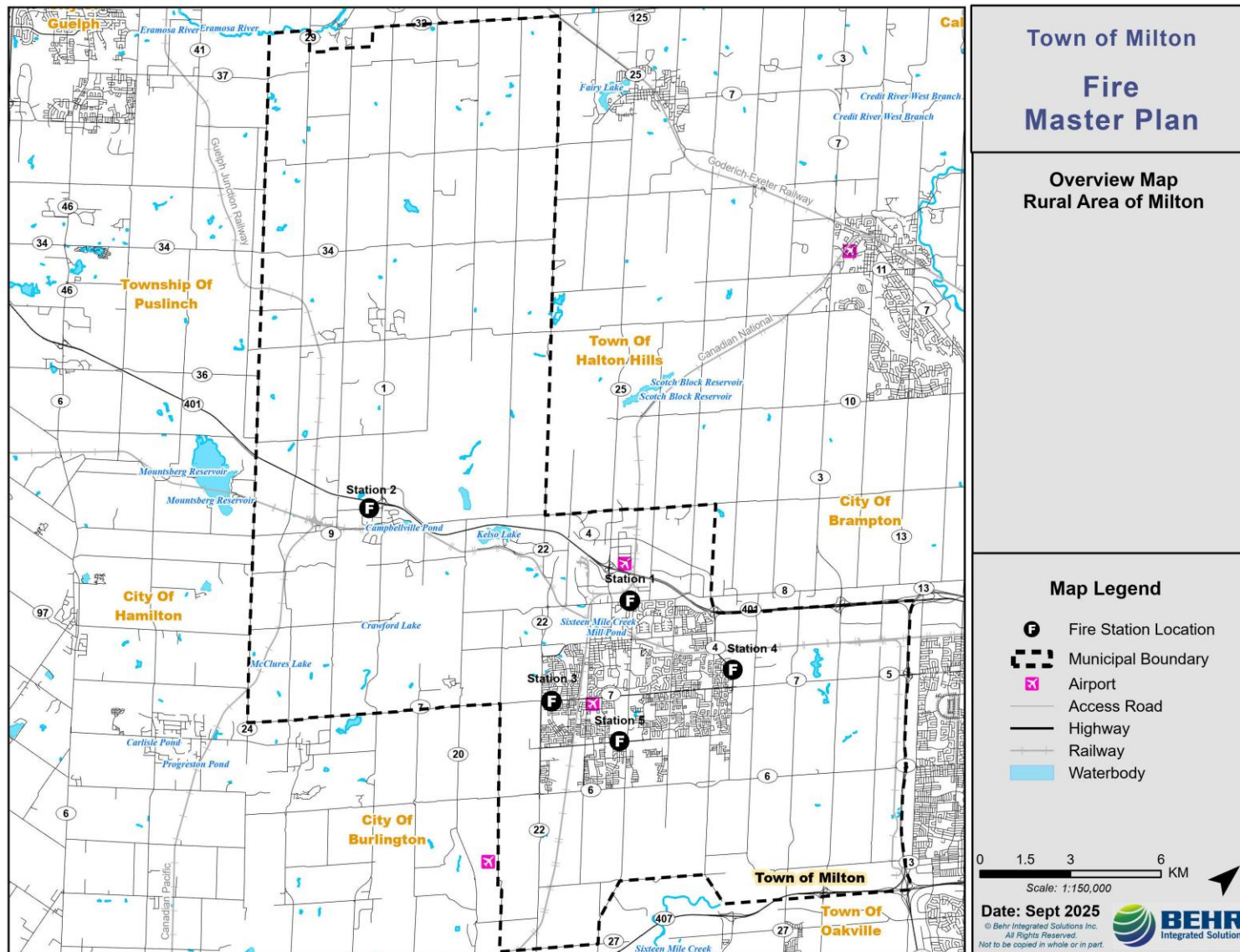
Milton is well-connected by major highways, including Highway 401, which runs east-west through Milton, Highway 407 to the north, and Highway 25 running north-south. Additionally, Milton is served by the Milton line of the GO Transit system, providing convenient commuter train and bus services to Toronto and other areas.

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.

Milton is about 40 kilometres west of Toronto, 27 kilometers southeast of Guelph, 61 kilometers east of Kitchener, and shares a border with the City of Mississauga. 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.

³ <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?DGUIDlist=2021A00053524009&GENDERlist=1&HEADERlist=0&Lang=E&STATISTI Clist=1&SearchText=Milton>

Map 1: Town of Milton Overview



2.2 Economic Indicators

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.

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.

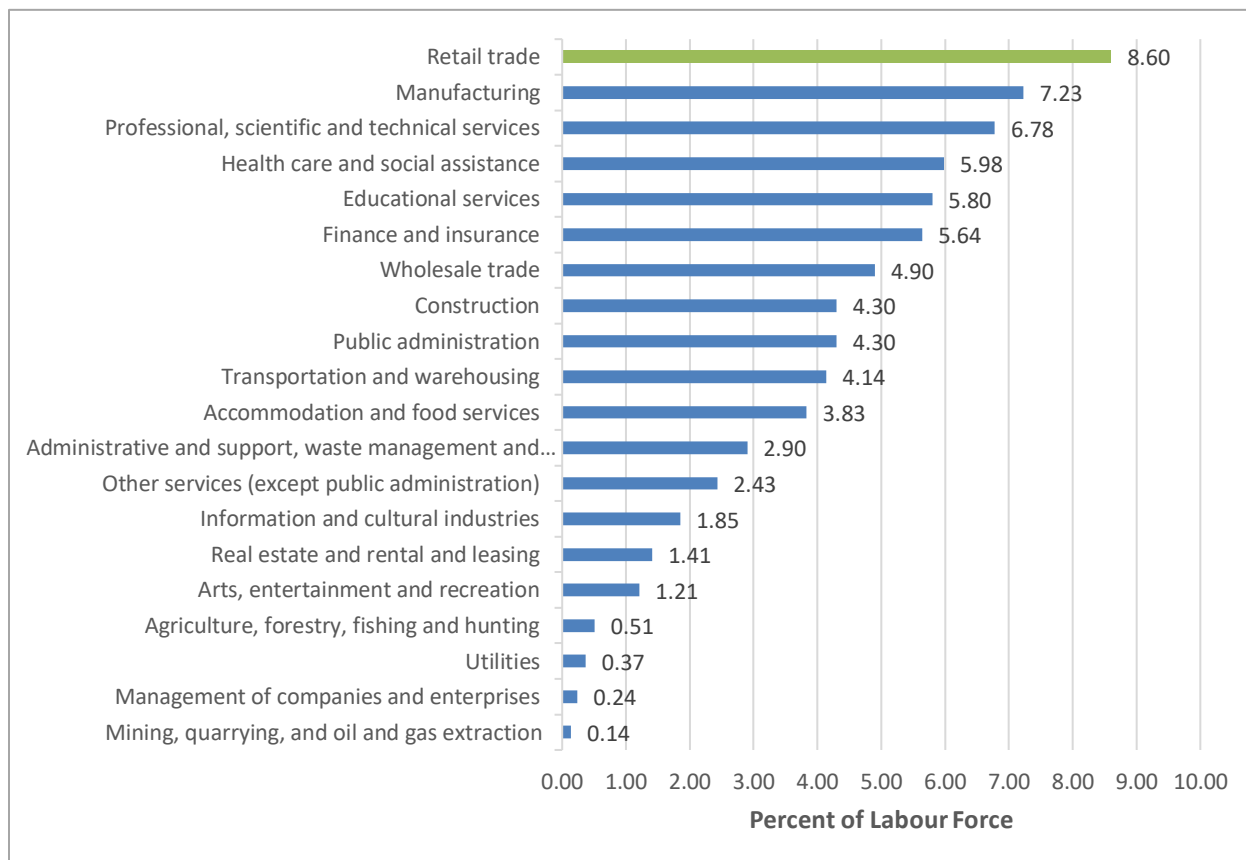
Certain industries, employers, and events contribute significantly to the financial sustainability and economic vitality of a community. A fire or other emergency at key sectors and employment facilities could have major impacts on the local economy and employment.

Table 3: Milton Major Employers

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
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

Note: The top industries that contribute to the economic base of the town are summarized in Figure 3.

Figure 3: Economic Sectors (2021)



2.3 Growth Projections

2.3.1 Overview of Urban Growth Strategy⁴

The Town of Milton is undergoing a significant transformation driven by a carefully phased and intensification-oriented growth strategy. While 71% of the Town's land base in the north and west is not currently contemplated for development, growth is concentrated in the south and east where servicing infrastructure already exists.

Milton's Growth Plan supports the development of mixed-use, transit-oriented communities within identified Secondary Plan areas including Trafalgar, Britannia, the Milton Education Village (MEV), and Walker (Boyne). Together, these plans are projected to accommodate over 130,000 new residents and tens of thousands of jobs over the next 20+ years. This managed approach aligns with Provincial and Regional objectives and hinges on both residential and employment growth to sustain Milton's financial projections and infrastructure investments.

⁴ <https://www.milton.ca/en/business-and-development/town-projects.aspx>

2.3.2 Secondary Plan Development Areas

Table 4: Secondary Plan Development Areas.

Secondary Plan Area	Status	Target Horizon	Estimated Growth	Key Milestones	Estimated Completion
Britannia	In effect (2025)	~2035+	~57,500 residents / 9,000 jobs	Tertiary planning, subdivision approvals	2025–mid-2030s
Trafalgar / GO Corridor	In effect (2024)	2031+	~26,000 residents / 4,000 jobs	GO station, high-density corridor development	Post-2031
Milton Education Village	In early planning	2031 horizon	~25,000 residents (long-term)	Institutional land use, infrastructure review	Mid-late 2030s
Walker (Boyne Area)	Active since 2015	2025+	~25,000 residents	Ongoing subdivision build-out	Through early 2030s

2.3.3 Building Types and Associated Risks

As Milton’s growth continues through the development of Secondary Plan areas, the associated building types introduce a wide array of fire and emergency service risks. Each plan area is expected to feature a mix of residential, commercial, institutional, and industrial developments, all of which require unique response capabilities.

Table 5: Building Types and Risks

Plan Area	Typical Building Types	Primary Risks	Special Considerations
Britannia	Low to mid-rise residential, commercial, schools, parks	High population density, increased medical calls, structure fires	Need for community outreach, education, and prevention programming
Trafalgar / GO Corridor	Mid to high-rise mixed-use, transit-oriented buildings	Vertical fire spread, high occupant load, transit incident risks	Aerial apparatus access, evacuation planning, transit coordination
Milton Education Village (MEV)	Academic institutions, research labs, student housing, commercial	Laboratory hazards, high occupancy, public assembly risks	Pre-incident planning, hazardous material protocols, code compliance
Walker (Boyne)	Low to medium-density residential, neighbourhood retail, schools	Residential fires, medical calls, inspection volume	Growth-driven service demand, suburban road access, fire hydrant coverage
CN Logistics Yard	Intermodal terminals, warehouses, industrial freight operations, maintenance facilities	Industrial fires, hazardous materials, vehicular collisions, rescue operations	High-risk technical rescue potential (trench, confined space), HAZMAT protocols, mutual aid coordination, emergency access routes for rail incidents

Table 6: Population and Private Dwellings Change (2001 to 2021)⁵

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

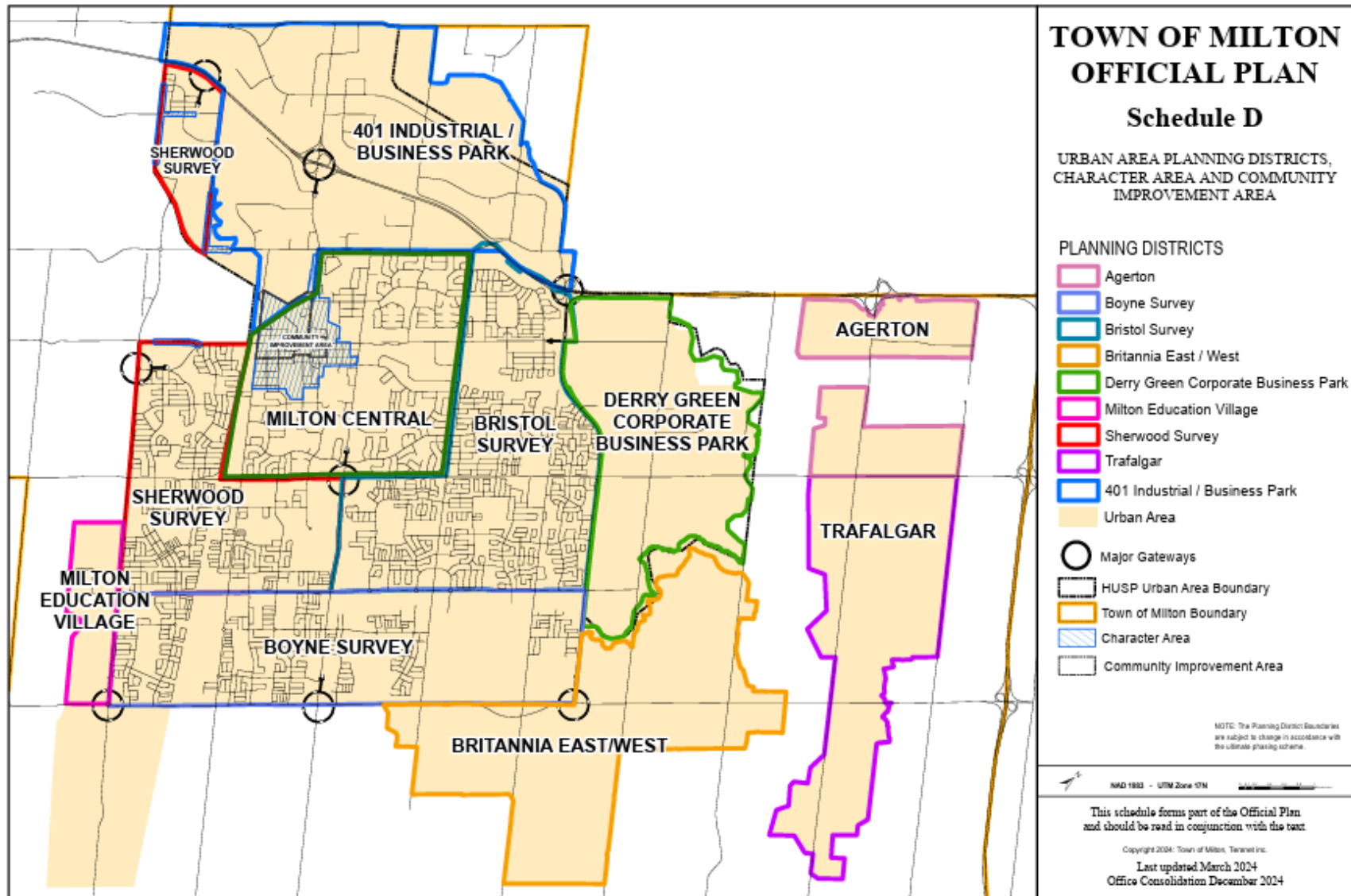
⁵ Town of Milton Census Profile 2021

Table 7: Town of Milton 25-year population forecast⁶

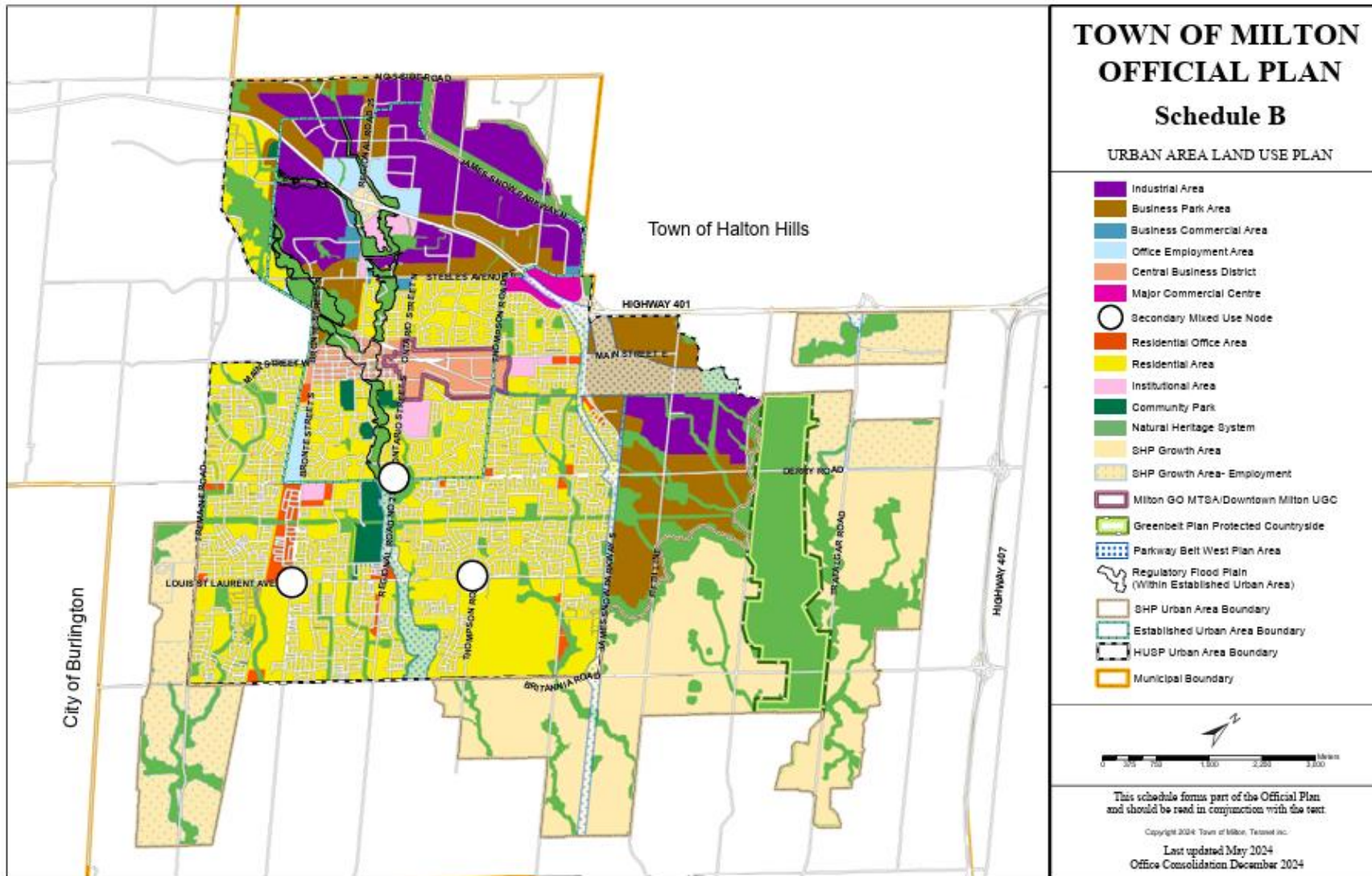
Year	Population	% Change	Total Private Dwellings	% Change
2021	132,979		41,000	
2026	175,490	32.0%	47,300	15.4%
2031	228,000	30.0%	54,600	15.4%
2036	278,120	22.0%	60,800	11.4%
2041	335,260	20.5%	81,300	33.7%
2051	400,400	19.4%	93,000	14.4%

⁶ https://www.milton.ca/en/business-and-development/official-plan-review.aspx?utm_source=chatgpt.com

Map 2: Town of Milton Official Plan – Schedule D



Map 3: Town of Milton Official Plan – Schedule B



2.4 Key Community Demographics

2.4.1 Population Growth

Table 8: Population growth (2016-2021)⁷

2021	2016	% Change
132,979	110,128	20.8%

2.4.2 Average & Median Age

Table 9: Average and Median Age 2021⁸

	Total	Male	Female
Average Age	35.2	34.7	35.7
Median Age	36.0	35.2	36.4

2.4.3 Population Distribution

Table 10: Population Distribution 2021⁹

Age Range	Total	Male	Female
0 to 14 Years	31,980	16,375	15,600
15 to 64 Years	87,770	43,655	44,120
65+ Years	13,225	6,045	7,185

⁷<https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?DGUIDlist=2021A00053524009&GENDERlist=1%2C2%2C3&Lang=E&STATISTIClist=1>

⁸<https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?DGUIDlist=2021A00053524009&GENDERlist=1%2C2%2C3&Lang=E&STATISTIClist=1>

⁹<https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?DGUIDlist=2021A00053524009&GENDERlist=1%2C2%2C3&Lang=E&STATISTIClist=1>

2.4.4 Age Distribution in Percentages

Table 11: Age distribution percentage 2021¹⁰

Age Range	Total	Male	Female
0 to 14 Years	24.7%	51.6%	48.4%
15 to 64 Years	66.1%	50.0%	50.0%
65+ Years	9.2%	45.9%	54.1%

2.5 Community Risk Assessment

Risk can be managed by either accepting the risk, insuring against damages, or investing in risk prevention and mitigation strategies. Local governments typically employ a combination of these approaches. In general, the risks and management strategies of a community are relative to a municipality's financial capacity, geography, population demographics, fixed assets, critical infrastructure, and overall service delivery.

Conducting a risk assessment is the first step towards establishing a strategic plan to manage community risks based upon local fire department response capabilities. The results are used to assist the municipality in making informed decisions regarding the allocation of limited fire prevention and fire response resources.

Community Risk Assessments are mandated under Ontario Regulation 378/18 and serve as a foundational tool for fire departments to identify, analyze, and prioritize public safety risks. These assessments enable informed decision-making regarding the types and levels of fire protection services provided, ensuring alignment with local risk profiles and community needs. Specifically, the following nine (9) profiles will be reviewed:

1. Geographic profile
2. Building stock profile
3. Critical infrastructure profile
4. Demographic profile
5. Hazard profile
6. Public safety response profile
7. Community services profile
8. Economic profile
9. Past loss and event history profile

The information and data gathered to address each of the profiles will assist in determining and prioritizing risks to public safety in the community and determining the fire protection services to be provided by municipalities to address those risks.

¹⁰<https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?DGUIDlist=2021A00053524009&GENDERlist=1%2C2%2C3&Lang=E&STATISTIClist=1>

Risks were identified using historical response data, hazard risk vulnerability assessments and information from our interviews to develop a risk profile for the community. The evaluation of fire and rescue risks considers both the probability and consequence of emergency event types. The probability of an event is quantified by analyzing historical, current, and projected data. The consequence of the event type or risk is based on an informed assessment of the potential impact on a community should the event occur.

The Community Risk Assessment (CRA) must consider the following:

- The format is approved by the Ontario Fire Marshal by reviewing the nine mandatory profiles.
- The Technical Guideline TG-02-2019: Community Risk Assessment Guideline will be used as guidance in formatting the risk assessment.
- Utilization of the charts as provided in the technical guideline or as a minimum, all the points outlined in the guideline.
- The CRA document will be made readily available if the Ontario Fire Marshal conducts a review of the municipality under the FPPA(Part III, 9. (1)(a)).

2.5.1 Factors Contributing to Risk

As mentioned, every municipality has unique challenges and characteristics contributing to the overall risk profile of the community. Examples of community risks include:

- Fire/rescue service model and response capacity
- Population and demographics
- Population growth rate
- Industry types
- Economy
- Rate of development
- Transportation corridor types
- Topography
- Weather
- Historical response data

2.6 Risk Management

All communities require a process to identify and actively manage high-priority risks. The focus of this report is to identify and discuss specific risks and unique community characteristics that contribute to risk, typically managed through fire and life safety education, fire prevention and code enforcement, or fire department response. Image 2 describes the risk management cycle.

Image 2: Risk Management Cycle Process



The first step in the risk management process includes the assessment of the probability and consequence of specific risks. The next step is the assessment to identify key risks, which are then evaluated against the current prevention or response strategy to identify potential service gaps. The third step in this cycle includes adjusting fire prevention and response service levels to manage the resources necessary to pre-emptively mitigate or respond as determined by approved service levels. The last step in the cycle is to measure, and report results to key policymakers. This cycle should be repeated periodically to address changes in the risk profile and make thoughtful and informed decisions regarding strategies to manage any changes.

In Canada, local governments are charged with delivering fire and rescue response services for their citizens. Elected officials are the ‘Authority Having Jurisdiction’ (AHJ), who determine the level of service required to manage fire and rescue risks to an acceptable level. The challenge for elected officials lies in determining the best balance between investing in adequate emergency services and accepting a certain level of risk.

2.7 Risk Evaluation vs. Service Levels

The evaluation of fire or rescue risks considers both the probability and consequence of emergency event types. The probability of an event is quantified by analyzing historical, current, and projected data. The consequence of the event type or risk is based on an informed assessment of the potential impact on a community should the event occur.

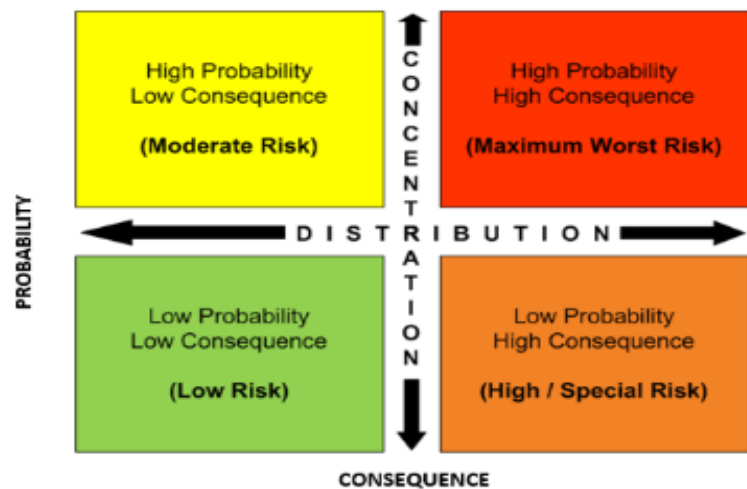
Probability – The probability of a risk, or event type, is the determined likelihood that an event will occur within a given time. The probability is quantified by considering the frequency of event type data. An event that occurs daily is highly probable and, therefore, higher risk. An event that occurs only once in a century is assessed as a lower risk as it may never occur.

Consequence – There are three types of consequences when considering fire/rescue response requirements:

- **Life safety impact:** Life safety risk for victims and responding emergency personnel are the highest order of consequence when considering the risk associated with specific event types. Events with a high likelihood of injury/death occurring and even a moderate probability of occurring require close examination to ensure adequate resources required to safely rescue or protect the lives of occupants from life-threatening are accessible to respond. Incidents that risk life safety include motor vehicle accidents, extreme weather, flooding, fire, release of hazardous materials, medical emergencies, and all types of rescue situations.
- **Economic impact:** Events with high negative impacts on the local economy are devastating to a municipality. For example, recovering from the fire loss of a large employer's property or key public infrastructure in smaller municipalities can be difficult. Therefore, providing adequate response capacity necessary to manage these types of events must be considered.
- **Environmental impact:** Negative environmental consequences resulting in irreversible or long-term damage to the environment must also be considered in the analysis. Events with risk of negatively impacting water, soil and air quality are also likely to impact life safety as well as the economy and therefore must be considered.

Social and cultural impacts, as experienced with the loss of historic buildings, recreation facilities or non-critical community infrastructure, are considered but do not typically affect how fire department resources are deployed.

Figure 4: Risk Evaluation Matrix



As discussed, the risk evaluation process is used to identify high-priority risks and the appropriate risk management strategy. Where a fire department response is determined to be the most appropriate management strategy, the appropriate services and service levels should be established to manage the risks safely. Elected officials are responsible for determining which services are delivered and setting service level goals. The service level goals determine the necessary concentration and distribution of either fire prevention or emergency response resources to manage the identified risks.

Distribution refers to the number of fixed resources, such as fire stations, and where they are placed throughout the community. Distribution varies depending on factors related to the number of incidents and types of calls for service in the defined area.

Concentration refers to the assembling of resources, such as a specialized workforce and equipment, needed to effectively respond to an incident in each area within the community. It must also identify the availability of additional response resources, including the reliability and time of arrival of a secondary responding unit.

The risk evaluation matrix can be divided into four levels of risk based on the probability and consequence, each with specific implications for the concentration and distribution of resources. It is provided as a reference and context to quantify fire response risks in any municipality. Different quadrants of the risk matrix need different response requirements, which offers examples of categories of types of structural fires and general hazards commonly found in communities. As described above, these risks are categorized by considering the probability and consequence of the fire or hazard. This qualitative analysis is based on experience and expertise and should be completed with input from fire, building and emergency management officials. Every community will have a unique risk inventory contributing to its risk profile.

2.7.1 Assigning Risk Level

Once probability and consequence are determined, the level of risk is calculated by multiplying the numerical values for probability and consequence. The relationship between probability and consequence as it pertains to risk levels can be illustrated in a risk matrix (below). In a risk matrix, probability and consequence are defined on separate scales with varying descriptors providing direction on how to assign the probability and consequence of an event. Figure 5 shows the risk matrix utilized in the updated CRA. The purpose of assigning a risk level is to assist in the prioritization of the range of risks that are identified in the CRA.

Figure 5: Risk Matrix Template

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

Where possible, quantitative data was used to inform the risk assignment as described in the rationale in the table. It is important to recognize that with the availability of new or updated data, the probability levels could change or be refined. It should also be recognized that, as identified in OFM T.G.-02-2019, “professional judgment based on experience should also be exercised in combination with historical information to estimate probability levels. Similarly, OFM T.G.-02-2019 acknowledges the role of professional judgment and reviews of past occurrences in determining consequence levels. The rationale provided for both probability and consequence consider information from the CRA’s nine profiles, as OFM T.G.-02-2019 supports consideration of the profiles together to inform decision-making about the provision of fire protection services in the specific municipality/community.

2.8 Structural Fire Risk Analysis

It is critical to use careful planning and consider alternative solutions when managing risk because the ability to increase the distribution of resources and add capacity is always limited. Spending substantial amounts of time and resources to manage a risk with low frequency/low consequences will have limited impact and make a minimal improvement to community safety. When planning for fire department response, the planning process includes a detailed review of the frequency of events and their potential consequence(s), to ensure prevention and response efforts maximize life safety and minimize negative consequences for high-priority events.

Municipalities must also account for the distinction between urban/suburban and rural service delivery when planning fire department response. Each presents unique challenges and requires tailored mitigation measures. In rural areas, extended travel times, often exceeding 10–15 minutes, are common, which can limit the ability of fire services to conduct interior offensive operations.

As a result, rural responses may more frequently necessitate a defensive strategy, as fires may have already advanced beyond the point of safe entry. This reality is present in Milton, where response performance varies across urban and rural zones.

The Office of the Fire Marshal (OFM) have developed guidelines to assist municipalities with conducting community risk assessments to inform decisions about the provision of fire protection services, in accordance with Ontario Regulation 378/18 and the Fire Protection Act 1997 (FPPA).

As referenced in O. Reg. 378/18, the building stock profile assessment includes an analysis of the types and uses of building stock in a municipality. Important considerations include the number of buildings of each type, the number of buildings of each use and any building related risks known to the fire department. There are potential fire risks associated with different types and uses of buildings, given the presence or absence of fire safety systems and equipment at the time of construction and maintenance thereafter.

2.9 Ontario Building Code Occupancy Classifications: Building Stock Profile

The Ontario Building Code (OBC) categorizes buildings by their major occupancy classifications. Each classification has definitions that distinguish it from other occupancy classifications. Using the OBC as the source for defining the occupancy classifications provides a recognized definition and baseline for developing the community risk profile. The OBC major classification groups and divisions are presented in the following table.

Table 12: OBC Major Occupancy Classification

Group	Division	Description
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 gather in the open air
B	1	Detention occupancies
B	2	Care and treatment occupancies
B	3	Care occupancies
C	--	Residential occupancies
D	--	Business and personal services occupancies
E	--	Mercantile occupancies
F	1	High hazard industrial occupancies
F	2	Medium hazard industrial occupancies
F	3	Low hazard industrial occupancies

2.10 OFM Fire Risk Sub-Model Occupancy Classifications

The Fire Risk Sub-Model developed by the OFM utilizes the major building occupancy classifications (i.e., Group A, B, C, D, E and F) but does not use the detailed division classifications as included in the OBC. This strategy provides the opportunity for further analysis of a specific occupancy group. Subject to any site-specific hazards or concerns, occupancies within a group can be assessed individually and included where required within the scope of the broader community risk assessment.

Analyzing structural fire risk begins by developing an exhaustive inventory of existing building stock and monitoring changes to the inventory. This process should include staff from the planning and development departments, as well as building and fire prevention officers. This provides the fire service with an opportunity to evaluate the Ontario Fire Code requirements in the design, construction, and operation phases of the building.

The building inventory database becomes the foundation of assessing fire risk in the community. This inventory provides a count of all property types, including single and multi-family residential, assembly (including schools, churches, hospitals, personal care homes, etc.), mercantile, commercial, and industrial properties.

Once the inventory is assembled, the fire department response capability is measured against the identified property risks. This simple identification of the high numbers of specific high-risk property types may identify gaps in the current response model, resulting in the reorganization or addition of fire department resources. As building stocks increase, fire departments should continue to monitor response capability and capacity to ensure service levels are maintained.

2.11 Town of Milton's Existing Major Building Classification Summary

An analysis of the Town's major building occupancy types was conducted using data provided by the Municipal Property Assessment Corporation (MPAC). Table 13 summarizes 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%), representing 37,140 residential units. The second largest occupancy type within the Town is Group F- Industrial Occupancies, accounting for 1.67% of the Town's property stock.

Table 13: Town of Milton Total Existing Property Stock¹¹

OBC Occupancy Classification	OFM Fire Risk Sub-Model Major Building Classifications	Number of Occupancies	Percentage of Occupancies
Group A	Assembly Occupancies	133	0.32%
Group B	Care or Detention Occupancies	32	0.08%
Group C	Residential Occupancies - Total	37,140	89.65%
<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 < 5 Storeys</i>	<i>133</i>	<i>0.32%</i>
<i>Group C</i>	<i>Apartment > 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>
Group D	Business & Personal Services	397	0.96%
Group E	Mercantile	253	0.61%
Group F (all divisions)	Industrial Occupancies	690	1.67%
<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>
Other	Not classified in OBC- Farm	938	2.26%
Other	Not classified in OBC - Government	1,843	4.45%
Total		41,426	100.00%

Consistent with most other municipalities in Canada, Group C - Residential Occupancies represent the most prominent type of building occupancy type in Milton at 89.65%. Standard incident reporting from the OFM¹² indicates that 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.

¹¹ Difference between MPAC and Census occupancy totals is related to MPAC classifications vs Census Groupings

¹² Milton SIR- Municipal Fires: Overview Property Class, Injuries, Cause, Ignition Source (2018-2022)

2.12 Potential High-Fire Risk Occupancies

Potential high fire risk occupancy is another factor for consideration within a Town's building stock. High fire risk can be linked to a combination of factors such as building density (exposures), building age, and construction. Fuel load typically refers to the amount and nature of combustible content and materials within a building. This can include combustible contents, interior finishes as well as structural materials. Combustible content tends to create the greatest potential fire loss risk. Higher fuel loads result in increased fire loss risk due to increased opportunity for ignition and increased fire severity. In many communities, large amounts of fuel load can be contained within a single occupancy, such as a building supply business, within a large multi-unit residential building, or within a historic downtown core.

2.12.1 Fuel Load Concerns

The review has identified 70 buildings with potential fuel load concerns. These include buildings involved in auto and auto parts, cannabis processing, food storage, general warehousing, and manufacturing. The buildings may utilize materials such as oxidizers and flammable and combustible liquids and chemicals.

In addition to ensuring compliance with the requirements of the OBC and the OFC, there are operational strategies that a fire service can implement to address fuel load concerns. These include regular fire inspection cycles and pre-planning of buildings of this nature to provide an operational advantage in the event of fire. It should be noted that some of these companies routinely update emergency response plans and share them with the fire services.

2.13 Occupancies with Potential High Fire Life-Safety Risk

Fire risk does not affect all people equally. Those who are at an increased risk of fire injury or fatality are known as vulnerable individuals. In the event of a fire, these individuals may be unable to self-evacuate and/or require assistance in their evacuation efforts. Identifying the location and number of vulnerable individuals or occupancies within the community provides insight into the magnitude of this demographic within a community.

2.13.1 Registered Vulnerable Occupancies

From an occupancy perspective, vulnerable occupancies contain vulnerable individuals who may require assistance to evacuate in the event of an emergency due to cognitive or physical limitations, representing a potential high-life safety risk. As part of its registry of vulnerable occupancies, the OFM defines vulnerable occupancy as any care occupancy, care and treatment occupancy, or retirement home regulated under the Retirement Homes Act.

These occupancies house individuals such as seniors or people requiring specialized care. It is important to note, however, that not all vulnerable individuals live in vulnerable occupancies; for example, some seniors who are vulnerable due to physical limitations can live on their own 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 includes hospitals, certain group homes, seniors' residences, and long-term care facilities. The regulation requires fire service to perform annual inspections, approve and witness fire drill scenarios and file certain information regarding the occupancy with the Fire Marshal's office. A list of the 23 vulnerable occupancies in Milton is presented in Table 14. These include care occupancies, care and treatment occupancies and retirement homes.

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, Dorm C4
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

2.14 Community Risk Analysis Overview

The Community Risk Assessment (CRA) for the Town of Milton has identified a series of high-priority risks and key findings that require strategic planning and mitigation through the Fire Master Plan. One of the most significant challenges facing MFRS is the predominance of residential (Group C) occupancies, which comprise nearly 90% of the building stock and account for the vast majority of fire-related injuries, fatalities, and property loss. In Milton, 100% of fire-related fatalities and 85.71% of fire-related injuries occurred in Group C buildings between 2018 and 2022. Contributing factors include a concerning rate of absent or malfunctioning smoke alarms and an aging housing stock, with over 16.5% of structures built prior to the implementation of modern building and fire codes. These risks are further compounded by the introduction of Additional Dwelling Units (ADUs), which increase building occupancy and complexity without adequate pre-incident identification systems.

Milton also faces elevated risk levels associated with its transportation corridors, industrial growth, and vulnerable occupancies. The town is bisected by major highways (401, 407, 25, and the future 413 interchange) and rail infrastructure, which function as dangerous goods routes and contribute significantly to motor vehicle collisions, representing over 92% of all rescue calls and approximately 18% of all responses. Industrial properties, while comprising only 1.65% of the property stock, account for 12.57% of fires and a disproportionate number of injuries and losses, particularly in properties with high fuel loads or buildings over 100,000 sq. ft. Additionally, 23 vulnerable occupancies, including long-term care facilities, require close monitoring due to increased risk to life safety and challenges in evacuation. Heritage properties and high-rise developments also present unique fire suppression challenges due to their design, occupancy, and age.

Demographic and economic trends further influence Milton's risk profile. The growing population includes a high proportion of seniors (10.47%) and children under 14 (22.20%), both considered higher-risk groups in fire safety. Milton also has a large newcomer population, with language diversity necessitating tailored public education and fire prevention messaging. The town has experienced a 28% increase in emergency call volume from 2018 to 2022, driven by development in the Derry Green Corporate Business Park and broader residential expansion.

The Community Risk Assessment (CRA) identified a range of pressures that influence the delivery of fire protection services in Milton, including factors related to population growth, changing demographics, built environment complexity, and geographic response challenges. The Fire Master Plan responds to these findings by providing the Town with a data-driven, risk-informed framework that supports proactive decision-making. Through clearly defined goals and strategic recommendations, the Plan guides improvements in resource deployment, public education, fire prevention, and operational readiness to ensure the fire service remains aligned with the community's evolving needs and risk profile.

The Town's Hazard Identified Risk Assessment (HIRA) was updated in 2023, indicating that Milton has complied with its legislative requirements. As a component of the risk assessment and risk analysis process, the top risks in Milton were identified. The HIRA assigned likelihood and consequence levels to a list of hazards based on the potential for impacts to people, property, and the environment. As a result of this analysis, the top hazards in the Town include the following:

- Infectious Disease
- Electrical Energy
- Winter Weather
- Cyber Attack
- Chemical
- High Wind
- Tornado
- Rail, Light Rail or Subway
- Road and Highway

In addition to the overall highest risks to the community, certain events pose an increased risk specific to firefighting. The risk to firefighting responders to the most hazardous events are identified below, as well as the most hazardous events they may encounter that pose a specific risk to them and their ability to respond.

2.15 Impacts of Hazards on Fire Protection Services

To better understand the risks of hazards as they pertain to fire protection services, the hazards have been assessed to identify possible impacts on fire protection services (excluding fire/explosion). Many of the potential impacts are not unique to a jurisdiction. The results of this review, as they pertain to the hazards in the Town, are presented in the following table.

Table 15: Impacts of Hazards on Fire Protection Services

Hazard	Possible Impact
Infectious disease	Overall Impact 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. Fire Services 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.
Electrical Energy	Overall Impact 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. Fire Services May require mutual aid support. May not be equipped (with enough people or apparatus) to extinguish fire as it expands. May require specialized resources.
Winter weather	Overall Impact 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. Fire Services 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.
Cyber Attack	Overall Impact Privacy/data breach of public and/or town. Inability to perform administrative functions. Fire Services 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.

Hazard	Possible Impact
Chemical	Overall Impact 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. Fire Services 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.
Tornado High Wind	Overall Impact 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 Fire Services 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.
Rail/Light Rail or Subway	Overall Impact Threat to life safety, may require evacuation. Impact to road network and environment. Fire Services 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.
Roadway/highway emergency	Overall Impact Threat to life safety. Impact to road network, downed power lines and vehicular fires. Fire Services 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.

2.15.1 Fire Underwriters Survey (FUS)

The Fire Underwriters Survey (FUS) provides a national standard for assessing a community's ability to prevent and respond to fires. Its results are used by over 90% of Canadian property and casualty insurers to help determine insurance rates.

Two main grading systems are applied:

- Public Fire Protection Classification (PFPC): A scale from 1 (best) to 10 (no recognized protection) for commercial, industrial, institutional, and multi-family properties.
- Dwelling Protection Grade (DPG): A scale from 1 (best) to 5 (no recognized protection) for detached homes and small residential dwellings.

FUS grades affect both insurance costs and community resilience. A higher grade (lower number) not only leads to lower insurance premiums for property owners but also reflects a municipality's investment in staffing, training, water supply, apparatus, and fire prevention programs. It also provides municipalities with a benchmarking tool to guide future fire service planning, capital investments, and staffing decisions.

Recent Milton FUS Review:

The most recent assessment confirmed that Milton has enhanced its fire protection capacity since the last review, resulting in an improved community rating.

Enhancements contributing to the upgraded rating include:

1. Hiring of 12 new full-time firefighters, a dedicated Fire Prevention Officer, and a Platoon Chief.
2. Faster response times to emergencies through strengthened staffing and coverage.
3. Expanded fire prevention inspections and pre-incident planning programs.
4. Improved rural water supply delivery through tanker shuttle operations.
5. Ongoing training, equipment maintenance, and operational readiness improvements.

This improved rating may help reduce insurance premiums and other insurance-related costs. Residents and businesses are encouraged to contact their insurance providers to learn more about potential savings.

These investments highlight Council's commitment to ensuring Milton Fire & Rescue Services keeps pace with growth, maintains service standards, and continues to enhance safety and quality of life for the community.

2.15.2 Fire Station Response Demand Zone

The Town of Milton is recognized as an urban centre with a rural component situated in the northwest area of the municipality. Fire protection services are delivered primarily by full-time firefighters, with support from part time firefighter personnel who respond to emergencies in rural areas and supplement response efforts in the urban core when needed. The Town's emergency response model reflects a growing community with diverse risks and varying population densities. To evaluate and enhance response performance, this section will reference established industry best practices related to the organization, deployment, and staffing of fire suppression and emergency medical operations. These benchmarks provide a framework for assessing Milton Fire & Rescue Services' ability to deliver effective, timely, and scalable emergency response across both urban and rural areas.

Under the Fire Protection and Prevention Act the municipality through their Council has the responsibility to set the level of service to be provided by the Fire Department. This is typically identified through an up to date Establishing and Regulating (E&R) By-law.

The Town of Milton's current Establishing and Regulating (E&R) By-law No. 072-2025 formally outlines the creation, authority, and core responsibilities of Milton Fire & Rescue Services (MFRS). The by-law provides a governance framework for the department, delegating powers to the Fire Chief, and summarizing the types of services to be delivered, such as fire suppression, fire prevention, medical assist, and emergency management. Schedule A of the by-law further details these service categories, helping to define the department's organizational mandate and structure. The by-law reflects the Town's continued commitment to delivering fire protection services in accordance with the Fire Protection and Prevention Act (FPPA), 1997.

While the by-law outlines general service levels, it does not include any Council-approved response performance benchmarks. Key performance indicators such as alarm processing time, turnout time, travel time, total response time, and Effective Response Force (ERF) assembly time are not referenced. This absence makes it difficult to assess operational effectiveness, track progress toward performance goals, or align service delivery with recognized standards. Additionally, the by-law does not differentiate response expectations between urban and rural areas, an important consideration given Milton's rapid growth and geographic diversity.

To support transparency, accountability, and long-term planning, the Town of Milton should consider amending its Establishing and Regulating By-law to incorporate Council-approved response performance objectives. These should reflect the realities of both urban and rural response zones, align with industry best practices, and be supported by data from the CRA and operational performance metrics. Including such benchmarks within the by-law will improve public confidence, provide a clearer framework for operational planning, and ensure that future service expansion is strategically and fiscally aligned with community needs.

Observation # 1: The Town of Milton continues to experience rapid growth and diversification in both its built form and population distribution. Milton Fire & Rescue Services (MFRS) operates under a composite staffing model, utilizing both full-time and Paid-On-Call (POC) firefighters to deliver fire protection and emergency services across the municipality. While the current Establishing and Regulating By-law outlines core services and organizational authority, it does not include Council-approved response performance objectives or operational benchmarks that guide deployment, staffing, or service delivery expectations. This lack of formalized performance standards limits the department's ability to consistently evaluate service levels, communicate performance outcomes, or plan future resource needs based on measurable targets. Additionally, the absence of a Standard of Cover (SOC) policy constrains MFRS's ability to strategically align its resources with community risk, land use patterns, and evolving service demands.

Recommendation #1a: Revise the Town of Milton's Establishing and Regulating By-law to formally incorporate Council-approved response performance objectives, clearly differentiating between urban and rural settlement areas to reflect the unique service delivery challenges and capabilities across the municipality.

Suggested completion: 6-12 months

Recommendation #1b: Develop and adopt a Standard of Cover (SOC) policy that clearly outlines response performance benchmarks, deployment strategies, and staffing requirements across different risk zones and occupancy types.

Suggested completion: 6-12 months

Cost: Neutral

Strategic Objective - Administration

Rationale: *Formalizing response performance objectives within the Establishing and Regulating By-law ensures that MFRS operates under clearly defined and Council-endorsed service expectations. Differentiating between urban and rural areas recognizes the operational realities of a mixed-service municipality, where geography, infrastructure, and staffing models influence the ability to respond effectively. Without these distinctions, it becomes difficult to measure performance accurately, justify future investments, or maintain public trust in service equity.*

The development of a Standard of Cover (SOC) policy complements the by-law by providing a detailed, risk-informed framework for resource deployment and staffing. An SOC allows the fire department to align its operational planning with the unique risks presented by high-density developments, rural properties, high-rise structures, and vulnerable populations. It also supports continuous improvement by establishing benchmarks against which the department can monitor performance and plan phased service enhancements. Together, these tools strengthen strategic planning, improve transparency with Council and the public, and ensure that emergency services remain scalable and responsive as the Town continues to grow.

Note: *Technical and specialized rescue operations are based on the likelihood that fire services will respond to such incidents. Personnel must be trained to at least the awareness level to effectively assess the situation, conduct a proper size-up, and request the appropriate additional resources.*

The Fire Chief should review these annually to determine if the current level is appropriate to deal with the needs and circumstances identified.

2.16 Water Infrastructure

Water supply is a critical infrastructure that is essential for firefighting. Having access to the Town's water delivery systems is critical to service delivery. Milton 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.

Treated surface water originating from Lake Ontario is delivered from South Halton and pumped to the Steeles Avenue Water Tower. The groundwater supply is derived from two well fields: Kelso and Walker's Line. The Kelso well field consists of four wells that pump raw water to the Kelso Water Treatment Plant. The treated water is then conveyed to the Milton Reservoir and subsequently flows by gravity into the distribution system. The Walker's Line well field includes one production well, where water is disinfected with chlorine and pumped to the Milton Surge Tank, located near 12th Side Road, from which it also flows by gravity into the distribution system. The entire treatment and distribution subsystem is operated and monitored through a Supervisory Control and Data Acquisition (SCADA) system, which is staffed 24 hours per day, seven days a week to ensure continuous operation and water quality assurance¹³.

Alternate water supply sources, particularly in rural or un-serviced areas, are critical to maintaining effective fire suppression capabilities. These may include access to ponds, streams, cisterns, and other non-municipal water sources, as well as the deployment of fire suppression apparatus equipped with portable water tanks. This equipment supports MFRS's Fire Underwriters Survey (FUS), recognized tanker shuttle operation certification, which enables a continuous and sustained water supply to the fire scene in the absence of municipal hydrants. Achieving FUS recognition for tanker shuttle capability has assisted in improving insurance grading and demonstrate the municipality's preparedness to address fire risk in rural areas.

In areas where a reliable municipal water supply is not present, it is essential for the fire service to develop and maintain a formal water servicing strategy or site-specific rural water supply plans to ensure that firefighting water needs can be met effectively. The Town of Milton participates in the Halton Region Mutual Aid Plan and has the ability to request support from neighbouring fire departments for tanker shuttle operations or additional apparatus when local resources are insufficient. There is also a specific fire protection agreement with Halton Hills for the North Milton area. These collaborative arrangements strengthen the Town's capacity to respond to rural fire incidents where water supply may be a limiting factor.

¹³ <https://www.halton.ca/Repository/2024-Drinking-Water-Systems-Flow-Summary-Report>

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SECTION 3

DEPARTMENT PROFILE

3.1 Department Overview

Modern fire departments have evolved into a critical component of a community's social safety net. Whereas early fire departments were historically established specifically to combat structure fires that, at the time, were often devastating, today, fire departments are also called upon to respond to medical emergencies, technical rescues, and dangerous goods releases, often working together with other response agencies. Fire services also provide fire safety education programs and ensure fire codes are complied with to reduce risks. As a result, fire departments must be properly structured, adequately resourced and equipped to deliver these services safely and competently.

Milton Fire & Rescue Services (MFRS) has a proud history of service that dates back to 1857, when the community established its first Fire Brigade Hook and Ladder Company. Over time, the department evolved in response to technological advancements and community needs, including the notable 1917 acquisition of a retrofitted McLaughlin Buick fire apparatus and the installation of Canada's first telephone-based firefighter alert system. The department transitioned from a volunteer model to a composite service, blending career and part-time personnel, as population growth and urban expansion increased demands on emergency response capabilities.

Today, MFRS operates as a composite fire service from five fire stations, ensuring coverage of both urban and rural areas of the municipality. The department is comprised of approximately 180 personnel, including full-time and part-time firefighters, fire prevention officers, training staff, communications technicians, apparatus maintenance and administrative support. MFRS delivers a broad range of services including fire suppression, emergency medical response, technical rescue, water and ice rescue, hazardous materials response, fire prevention and inspections, and public education initiatives. The department maintains fire service agreements with neighbouring municipalities including Halton Hills, Oakville, Burlington, and Mississauga, enhancing operational flexibility and coverage during large-scale or simultaneous incidents. The MFRS is established and guided through by-law 072-2025 "Being a By-law to Establish and Regulate the Fire Department".

The Town of Milton has developed the 2023-2027 Strategic Plan¹⁴. The plan outlines the Mission to *"Provide excellent and sustainable municipal services to foster a vibrant and inclusive community where residents thrive, businesses flourish and nature is cherished."*

¹⁴<https://www.milton.ca/en/town-hall/strategic-plan.aspx>

The Strategic Plan outlines five strategic themes, Invest in People, Innovate in Technology & Process, Quality Facilities & Amenities, Connected Transit & Mobility, and Planned Community Growth, that collectively shape the municipality's vision for sustainable development, inclusive service delivery, and community resilience. Each theme is supported by targeted strategic imperatives that guide policy development, operational planning, and long-term capital investment. These themes serve as an important framework within which Milton Fire & Rescue Services (MFRS) aligns its objectives, programs, and service delivery strategies.

This Fire Master Plan has been developed to support and advance the Town's corporate strategic priorities through the lens of fire protection and emergency services. The goals and recommendations contained within this plan reflect a commitment to optimizing community safety through workforce sustainability, technological innovation, infrastructure investment, risk-informed service delivery, and adaptive growth planning.

The following Corporate strategic themes and imperatives have impact on the MFRS and this Master Plan

1. Invest in People - Imperatives:
 - **Develop and execute a plan to attract, retain, and nurture a skilled, diverse, and resilient workforce.**
 - **Ensure staffing strategies align with evolving community needs, service delivery requirements, and Council's vision to make Milton an employer of choice.**
2. Innovate in Technology & Process - Imperatives:
 - **Identify services and programs ripe for digitization or modernization.**
3. Quality Facilities & Amenities - Imperatives:
 - **Create a funding and investment roadmap for the consistent maintenance and operation of Town-owned facilities and assets.**
 - **Optimize utilization through effective planning and service-level benchmarking to guide future investment needs.**
4. Planned Community Growth - Imperatives:
 - **Finalize a new Official Plan reflecting strategic growth priorities.**
 - **Focus development around priority areas such as the Uptown GO Station precinct, Civic Precinct, Milton Education Village, Trafalgar, Britannia, and Agerton.**

3.1.1 Strategic Priorities

This updated Fire Master Plan (FMP) is designed to serve as a strategic roadmap for the Town of Milton, guiding Council, and senior administration in making informed decisions about fire protection services over the next five-year planning horizon. The planning framework outlined in this document is grounded in legislative compliance, operational analysis, and recognized best practices in the fire service sector.

A key component of this FMP is the identification of strategic priorities, foundational principles that will inform future resource allocation, policy development, and operational enhancements. These strategic priorities are intended to align fire protection services with community risk, support long-term sustainability, and deliver maximum public value.

1. Risk-Informed Service Delivery

Ensure the ongoing application of the Community Risk Assessment (CRA) to identify and evaluate fire safety risks across the municipality. This assessment will guide the development of targeted goals, objectives, and service levels aligned with community fire life safety needs and legislative responsibilities.

2. Strengthening the First Two Lines of Defence

Optimize the use of public education and fire prevention, supported by the enforcement of fire safety standards and the Fire Code. These proactive measures are essential to reducing fire risk and enhancing community resilience through a comprehensive fire protection approach.

3. Sustainable and Value-Driven Services

Prioritize strategies that enhance the long-term sustainability of fire protection and emergency services. Focus on delivering the most effective and efficient levels of service to ensure fiscal responsibility and maximize value for the community.

3.1.2 Program Area Goals

In support of the strategic priorities established in this Fire Master Plan, Milton Fire & Rescue Services (MFRS) has defined a series of program-specific goals to guide the development, delivery, and continuous improvement of fire protection services. These goals provide the operational foundation to achieve a risk-informed, prevention-focused, and sustainable service model. They ensure that fire protection and emergency response services are aligned with the community's evolving risk profile, legislative obligations, growth trends, and resource realities.

Each goal reflects a core program area within MFRS and supports the implementation of the Town's Community Risk Assessment (CRA), enhances the first two lines of defence through education and prevention, and promotes the long-term effectiveness and efficiency of service delivery. These program area goals are designed to direct internal planning, budget development, staffing strategies, and performance measurement across the department and serve as the basis for future actions and recommendations.

Goal # 1: Administration

Enhance administrative efficiency and support systems to ensure the seamless operation and sustainability of programming initiatives, maintain key operational activities, and maintain the appropriate resources to provide support to identified programs.

Goal #2: Public Education

Develop and implement fire safety education campaigns that targets risks identified in the CRA to raise awareness about fire prevention, the importance of fire safety practices, and what to do in an emergency.

Goal #3: Fire Prevention and Code Enforcement

Implement a program for proactive fire safety inspections for residential, commercial, and public buildings to ensure compliance with fire prevention codes, identify fire hazards, and encourage timely maintenance and repairs to non-compliant issues.

Goal #4: Operations

Provide emergency response services that reflect the community's identified risks, growth projections, and operational realities. Services will be delivered with a focus on health and safety, industry best practices, and a commitment to efficiency, effectiveness, and long-term value for the community.

Goal #5: Emergency Management

Strengthen its capacity to prepare for, respond to, and recover from all types of emergencies. Through coordinated planning, training, and inter-agency collaboration, the Service will enhance community resilience, safeguard life and property, and support continuity of operations across a broad range of hazards.

Goal #6: Communications

Maintain and enhance a technologically advanced communications system that supports the operational needs of a growing community. By adopting industry-leading practices, scalable technologies, and robust dispatch protocols, the Service will ensure timely, accurate, and resilient emergency communications that enhance firefighter safety and improve overall service delivery.

Goal #7: Training

Deliver a progressive and sustainable training program aligned with the services authorized in its Establishing and Regulating By-law. The program will integrate current firefighting practices, safety standards, and emerging technologies to ensure personnel are equipped with the competencies needed to respond safely and effectively to evolving risks and service demands.

Goal #8: Facilities, Apparatus, and Equipment

Ensure that apparatus and equipment are available in the appropriate quantity, maintained in a ready and reliable state, that align with operational requirements. Through robust preventative maintenance and asset management practices, the Service will support safe, effective, and efficient emergency response across the community.

3.2 Administration

Goal #1: Enhance administrative efficiency and support systems to ensure the seamless operation and sustainability of programming initiatives. Maintain key operational activities and maintain the appropriate resources to provide support to identified programs.

A fire department's employees are its most valuable asset. Emergency services are often delivered under difficult and stressful circumstances, with little room for error. Fire departments must be adequately resourced with staff, equipment, and training to be effective in delivering highly technical services to achieve service excellence. As a result, considerable effort is warranted to ensure that only highly committed, team-oriented, and physically able employees are recruited, trained, retained, and supported.

An effective organizational structure must promote and support strong, effective leadership, sound business management and continuity, and effective communication with opportunities for staff development.

The Town of Milton Human Resources Department (HR) partners with the municipality's departments to assist with achieving their human resources goals and objectives.

Functions provided include:

- Employee & Labour Relations
- Recruitment
- Disability Management
- Training & Development
- Employee & Family Assistance Program
- Compensation & Benefits
- Health and Safety and Wellness
- Return to Work Program

The HR staff is responsible for the legality of all departments in the corporation and works together with the MFRS administration to assist with providing consistent delivery of fire services, including:

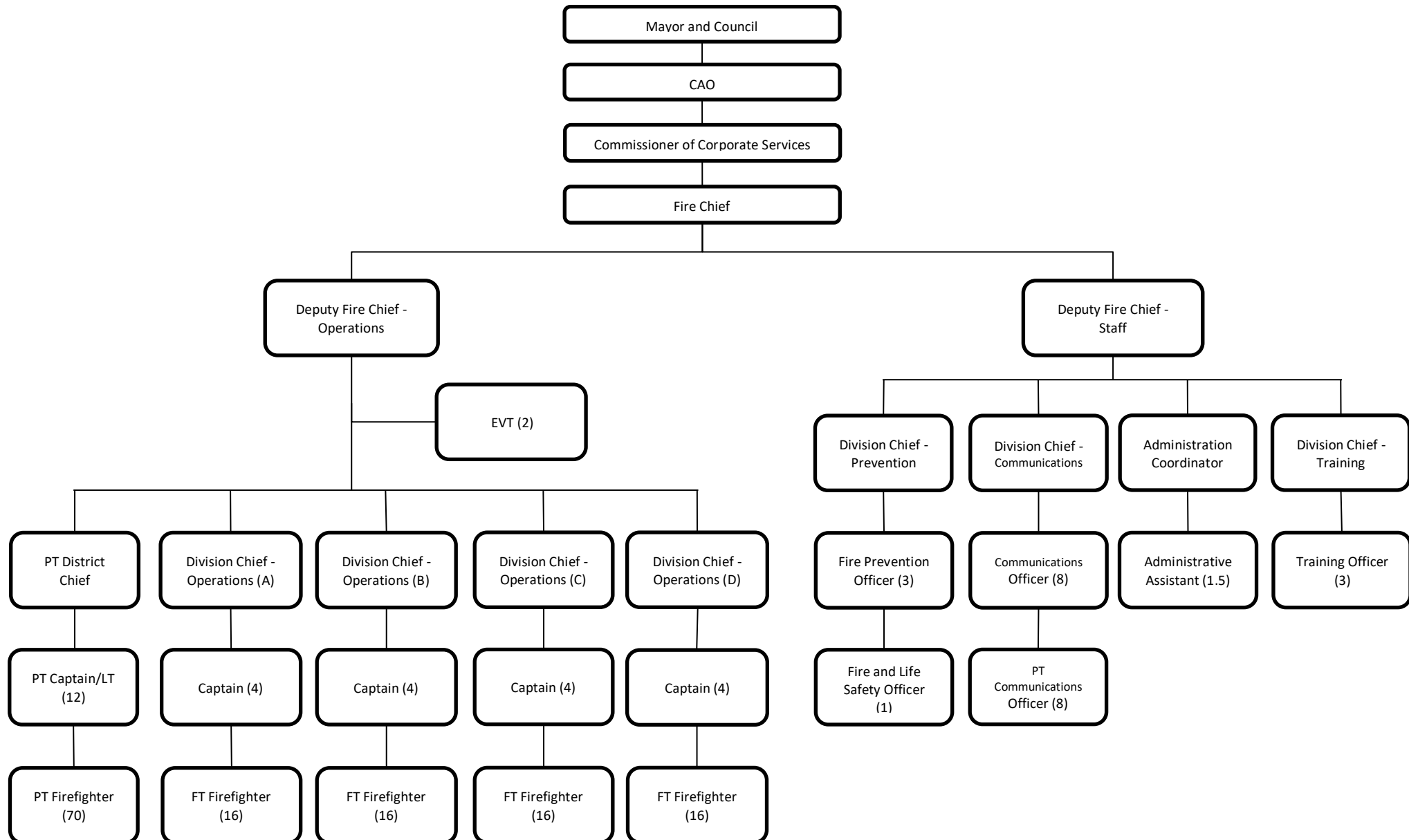
- Benefits administration
- Collective Agreement oversight and compliance
- Workplace WSIB requirements
- Respectful workplace compliance
- Other corporate responsibilities relating to corporate employees

In addition to these core responsibilities, the Human Resources (HR) staff play a vital role in facilitating ongoing communication among departments, ensuring that all policies, procedures, and compliance standards are not only met, but also clearly understood across the organization. Impacts of corporate policies and labour decisions on all departments should be considered, including the fire services. This collaborative approach fosters an environment where staff at every level are empowered to work safely and productively, with a strong emphasis on mutual respect and support. Future opportunities for further involvement by Human Resources staff with MFRS are in the areas of change management and succession planning. Succession planning in particular is an issue with the growth of the department and the development of new supervisory roles that may be difficult to fill internally as job descriptions are developed and evolve over time.

3.2.1 Department Leadership, Management and Operations

MFRS administrative responsibilities, management and leadership are provided by the Fire Chief and two Deputy Fire Chiefs through to the Division Chiefs and officers (see Figure 6). A clear understanding and acceptance of each position's role in leadership, along with effective management, is key to a safe and effective fire service. Leadership, done in a consistent and professional manner, transcends the entire organization. This creates a cohesive, resilient, value-based organization that embraces change as part of day-to-day work.

Figure 6: Milton Fire & Rescue Service Organization Chart



Effective leadership and management start at the top of an organization to guide it towards success. With increasing pressure to find value for money, elected officials are continuously looking for ways to increase the value for money proposition for their citizens. Department managers are challenged to maintain or increase services while avoiding service cost increases. This environment generates the need for communities to adopt more business-like approaches for delivering public safety services. Managers of fire and emergency services are required to develop private sector-like business practices such as:

- Developing performance measures and objectives for core services including emergency response, fire prevention, public education and health and safety.
- Regularly monitoring and reviewing performance; and
- Ensuring value for service.

Fire department leaders must adopt a business-like approach to leading and managing their departments. Along with their municipality's senior administration, they need to be proactive and examine all aspects of their service delivery to continually look for innovation in efficiency and effectiveness.

The following theoretical figure suggests how to allocate leadership time to effectively operate a fire department, scan for improvement opportunities and implement system improvements.

Figure 7: Fire Service Time Management Examples

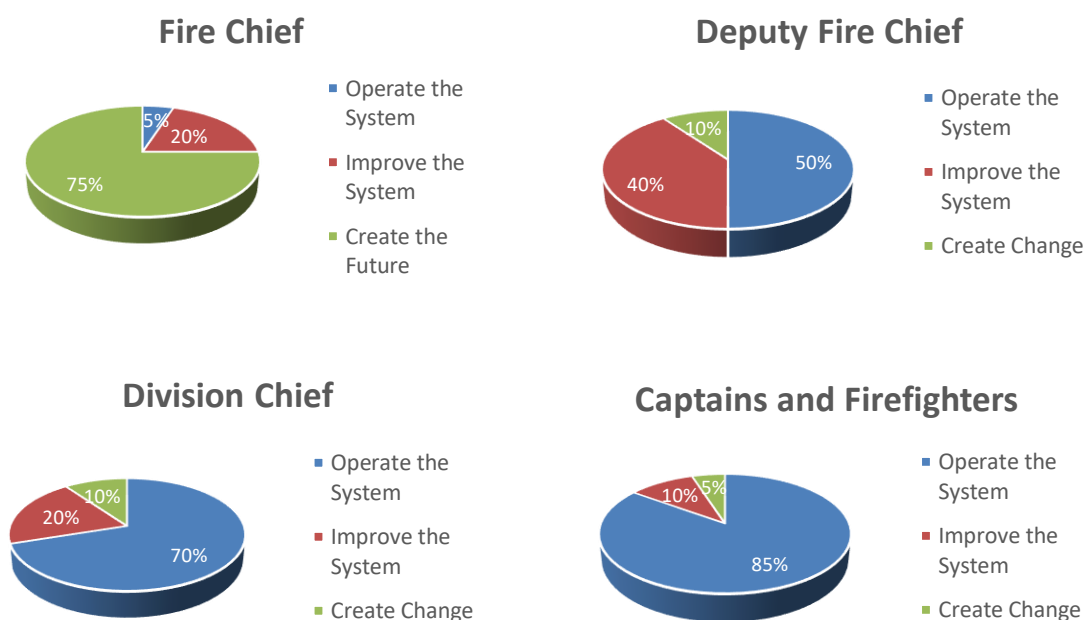


Figure 7 illustrates two important points:

1. The amount of time allocated to operating, improving, and identifying strategy varies at different levels in the organization.
2. Senior leadership positions in MFRS must retain the capacity to identify and implement change.

The MFRS Fire Chief is responsible for the overall management of the MFRS consistent with the Fire Department Establishing and Regulating By-law. Duties captured in this by-law include (but are not limited to):

- Legislative duties as mandated by the Province of Ontario Fire Protection and Prevention Act 1997 (FPPA).
- Reporting through the Chief Administrative Officer (CAO) to Council for proper administration and operation of the fire department.
- For preparing, implementing, and maintaining a departmental fire service plan and program for the Corporation consistent with the Master Fire Plan.
- The preparation and delivery of an annual budget for approval and exercising control over the approved budget.
- Determining and establishing qualifications and appointing members and administrative support staff of the department.
- Developing and implementing general orders, policies, procedures, rules and regulations for the proper administration and efficient operation of the Fire department and the effective management of Fire Protection Services for the Corporation, and for the prevention, control and extinguishment of fires, the protection of life and property and the management of emergencies.
- Administer and enforce the Fire Bylaw and other corporate bylaws respective fire protection services and to administer and enforce of all general orders, policies, procedures, rules, and regulations of the department made under the by-law.
- Provide all the powers, rights and duties assigned to a fire chief under the FPPA.
- Liaise with the Office of the Fire Marshal of Ontario or other office, organization as required by Council, and with any union representing firefighters.
- Develop and implement automatic aid, mutual aid and other negotiated fire protection and emergency service agreements within the Corporation's borders and/or within the municipal borders of adjoining municipalities.

The MFRS Deputy Fire Chiefs are the second ranking officers of the Fire Department and act on behalf of the Fire Chief in case of absence or vacancy in the office of Fire Chief. The MFRS Fire Chief may delegate some of the Fire Chief's responsibilities to the Deputy Chiefs for the effective and efficient management of the fire department.

The leadership team appears sufficient in competency and structure to deliver the high level of leadership required for a fire service. The administrative positions (Fire Chief and Deputy Fire Chiefs) have core responsibilities detailed within their respective job descriptions that allows for an appropriate division of work given the increased demands resulting from legislative requirements, managing a growing 24/7 operations, and the growth in the community and the MFRS organization.

Many departments managing full-time services are moving to three or more managers to allow for a balance of workload and ensure a strategic focus is maintained for the growth and advancement of the organization. Maintaining a three-manager model allows for shared on-call responsibilities, enhances succession planning, and supports adaptability to evolving legislative requirements.

It is extremely important that the leadership within MFRS continue to work closely as a team. A highly functioning team is one that understands each person's roles and responsibilities and brings their skills together in a collaborative manner to lead the organization in achieving their vision, mission, and goals. Therefore, it is important to ensure that accurate and updated job descriptions are made available and respected for each team member to promote role clarity.

Traits of a high-performing team include:

- Trust
- Strong communication
- Transparency
- Collaboration
- Support
- Clarity
- Adaptive
- Reflective

Leadership is a function of all members of MFRS. Chief officers to firefighters contribute to the leadership required to achieve service excellence in a fire department. Day-to-day MFRS leadership is the responsibility shared with each chief officer, station, training, and fire prevention officer. These positions play a critical role in leading, managing, and mentoring MFRS staff. These roles are crucial in ensuring all services are aligned with department policy, as well as being the critical link in the chain of command between staff and administration. Within the current MFRS organizational structure, it is imperative that the administration continues to work closely to provide direction and support while allowing for engagement, including constructive feedback.

Administrative Support

As MFRS continues to expand its service delivery model, the administrative demands on the organization have grown significantly. Program areas such as fire prevention, training, communications, emergency planning, and dispatch are increasingly complex, and data driven. New technologies, including digital inspection systems, computer-aided dispatch (CAD), and learning management platforms, also generate additional administrative workload. The composite nature of the department, with a large part time firefighter component, adds further scheduling, payroll, and documentation responsibilities that require consistent and dedicated support.

Currently, MFRS operates with only 2.5 full-time equivalent (FTE) administrative staff, including the Supervisor of Administration. This staffing level has not kept pace with operational and organizational growth. As divisions scale their programs and internal reporting becomes more demanding, there is growing pressure on both administrative and uniformed personnel to manage routine tasks such as data entry, scheduling, records management, and internal communication. These limitations reduce departmental efficiency and force senior officers to divert time from their core strategic responsibilities. Inadequate administrative support can also delay program implementation, reduce internal responsiveness, and challenge the department's ability to meet evolving service and compliance requirements.

To address these pressures, MFRS should transition the existing part-time administrative support role to a full-time position and phase in one additional full-time administrative FTE, bringing the total complement to 4.0 FTEs. This phased approach provides a cost-effective solution that will strengthen divisional operations, reduce administrative burdens on operational staff, and ensure timely and accurate program execution. By reallocating routine support tasks to dedicated personnel, MFRS can optimize its use of senior leadership and front-line resources, enhancing both internal capacity and service quality as the community and department continue to grow.

MFRS officers, fire prevention staff and firefighters are responsible for the delivery of most front-line operational services. They are the primary point of interaction between a fire department and someone in crisis or the public. Their leadership is exhibited by their professionalism and commitment to service excellence. Although their influence may be limited to their immediate coworkers, their role in forming public perceptions regarding the value and support of their services is critical.

Finally, the importance of maintaining a team atmosphere across the department and commitment to common goals cannot be overstated. Fire officers, fire prevention and training staff, including firefighters, often work in isolation from the administration. This heightens the need for leadership positions, including all chiefs and officers, to communicate frequently and bridge perceived gaps regarding commitment to mission and service excellence. Despite the varying roles and responsibilities assigned to administration, officer ranks, and the most junior staff, the characteristics of a successful team should be promoted at every level in the organization.

Observation #2: MFRS is operating within a growing and increasingly complex service environment, with expanding responsibilities across all divisions including Training, Fire Prevention, Dispatch, and Emergency Management. At the same time, the department continues to rely on a growing composite staffing model, with Part time firefighters playing a critical role in maintaining response capacity, particularly in support of rural coverage and surge operations.

While Milton Fire & Rescue Services (MFRS) has continued to advance its operational capabilities in response to community growth and increasing service demands, there is now an opportunity to strengthen its administrative and management support systems to better align with this progress. As divisional responsibilities expand, so too do the expectations for coordination, documentation, program delivery, and internal communication. Supporting functions such as training administration, fire prevention scheduling, data reporting, and emergency planning require additional resources to ensure continued efficiency and responsiveness. Furthermore, the part time firefighter program would benefit from dedicated leadership to enhance engagement, training consistency, and operational readiness. Proactively investing in administrative and managerial capacity will position MFRS to sustain high service standards, support its staff effectively, and ensure scalable service delivery as the community continues to grow.

Recommendation # 2a: Phase in 1.5 FTEs for divisional administrative staffing to support internal coordination, program deliver, regulatory compliance, and operational efficiency across all branches of MFRS.

Suggested completion: 12-36 months

Cost: Annual cost of \$55,115 - \$68,894 / FTE (2024 rates) plus benefits. Net increase \$82,673 - \$103,341 (plus benefits).

Strategic Objective: Administration

Recommendation #2b: Create a dedicated management position, such as an Assistant Chief or Division Chief of Composite Operations, responsible for the administration, coordination, and development of the Paid-On-Call firefighter program.

Suggested completion: 24-36 months

Cost: Annual cost of \$139,713 (2024 rates) plus benefits

Strategic Objective: Administration

***Rationale:** Administrative and managerial personnel provide critical support functions that enable the smooth operation of front-line services. As divisional mandates broaden, whether through new inspection targets, enhanced training programming, dispatch service expansion, or emergency planning obligations, there is a corresponding need for enhanced administrative infrastructure. Investing in administrative and supervisory staff improves internal coordination, supports data management and reporting, strengthens policy development, and allows for proactive planning. Expanding this capacity will ensure that MFRS can deliver high-quality services, maintain regulatory compliance, and sustain operational efficiency as Milton's fire protection needs continue to evolve.*

3.2.2 Staffing Complement

MFRS is led by the Fire Chief reporting to the CAO and Council. The MFRS administration is comprised of the Fire Chief, and two Deputy Fire Chiefs supported by a dedicated Administrative Coordinator and 1.5 Administrative Assistants.

MFRS maintains a regular staffing complement of approximately 180 full-time and part-time personnel, organized into six key divisions and functions: Operations, Fire Prevention, Communications, Training, Administration, and Apparatus & Equipment Maintenance.

The Administration Division, located at Fire Station 3 (Headquarters), operates Monday through Friday, and supports the department's leadership, clerical, budgeting, and logistical coordination functions. The Fire Prevention Division, also based at Station 3, includes a Division Chief, three Fire Prevention Officers, and one Fire and Life Safety Educator. They operate on a standard 40-hour work week and are responsible for inspections, code enforcement, public education, and fire investigations.

The Training Division, based at Fire Station 1 (the Fire Training Centre), provides ongoing training and professional development for suppression personnel. Staff in this division work a 40-hour week, with flexibility based on course delivery and operational demand.

The Operations Division comprises full-time fire suppression staff working out of Stations 1, 3, 4, and 5. These firefighters work 24-hour shifts on a rotating platoon schedule, balancing to an average of 42 hours per week over a four-week cycle. Part-time (paid-on-call) firefighters are assigned to Stations 1, 2, and 3 and are activated for support during escalated incidents or peak demand. They are alerted via the MFRS Dispatch Centre and report directly to their assigned station.

The Communications Division consists of one Division Chief, eight full-time Communication Technicians, and five to eight part-time technicians. Staff operate a primary Communications Centre located at Station 3, providing emergency call handling and dispatch services for MFRS and potentially for future partner municipalities. The team supports 24/7 operations and plays a critical role in inter-agency coordination, call triage, and resource deployment.

MFRS maintains an in-house Apparatus and Equipment Maintenance team, which currently includes two certified Emergency Vehicle Technicians (EVTs). This team is responsible for the maintenance, repair, testing, and certification of all front-line and reserve emergency vehicles and related equipment. Operations are primarily conducted at Station 1, which has a designated maintenance bay.

The established suppression staffing per platoon between the four fire stations is 20, including 4 Captains and 16 firefighters. Interview results have indicated each platoon regularly operates at the established minimum suppression staffing of 16 on each platoon.

Minimum staffing levels result in a minimum of front-line apparatus being staffed. Emergency incidents that require a full response of apparatus and personnel may quickly consume all on-duty resources. The use of the part time firefighter structure allows for additional resources for larger incidents and station coverage during busy periods.

3.2.2.1 Operations Staffing Ratio

Typical staffing ratios for 1 full-time equivalent (FTE) 24/7 position range from 4.9 to 5.5 FTE positions but are dependent upon the respective labour contract entitlements for scheduled absences, vacation, lieu time, sick leave, etc. In addition, deployments, off-shift training, regional requirements, or secondments need to be applied to the calculation. As shown in Table 16, utilizing the above-mentioned staffing calculation should provide the basis for calculating the MFRS staffing ratio. The staffing ratio determines the number of firefighters required to sustain a Minimum Duty Strength (MDS) per FTE on a 24/7 basis. Operational response requirements for critical tasks and the ERF are not considered in the staffing ratio.

Table 16: Milton Fire & Rescue Services Staffing Ratio Calculation

	Description	Hours
1	Availability required per firefighter, in hours	2184
2	Total yearly coverage required per 4 ff, in hours (one apparatus)	8736
3	Sick time certified, in hours per FF	80
4	Annual vacation time in hours per FF	264
5	Lieu time in hours per FF	168
6	WSIB, STD, LTD in hours per FF	36
7	Bereavement	8
8	Unavailable for duty in hours (sum Line 3 to Line 7)	556
9	Avg availability per FF in hours (Line 1 minus Line 8)	1628
10	Staffing ratio required per 4 firefighters (Line 2/Line 9)	5.37
11	# FF minimum staff required on duty to staff apparatus (MFRS current/proposed – added two stations)	16/24
12	Min. ff assigned per platoon to ensure minimum staffing maintained ((Line 10/4) X Line 11)	21.48/32.22
13	Rounded to the next full FTE count	22/33

3.2.3 Mission, Vision, and Values

A mission statement declares concisely the purpose of an organization, why it exists and how it provides service. A vision statement offers insight into where the department strives to be in the future. Values are the beliefs and principals that drive the organization forward. In some cases, a fire service may align with their municipality's mission and vision or build upon those with fire service specific statements.

The Town of Milton Mission, Vision and Strategic Themes were captured from the Town of Milton Strategic Plan. At the Town of Milton, the strategic plan creates a shared vision that guides the work of Council and staff to meet the needs of an evolving community for the current term of Council (2023-2027) as well as for the longer-term future (2051).

Town of Milton Mission Statement

We provide excellent and sustainable municipal services to foster a vibrant and inclusive community where residents thrive, businesses flourish and nature is cherished.

Town of Milton Practical Vision for 2023-2027

By 2027, Milton will have laid the foundation for its future as a diverse and welcoming community defined by higher densities enabled by transit.

This foundation will include transit system advancements, prioritized infrastructure, quality facilities and a diverse housing stock in varied neighbourhoods where people can live and work close to nature.

The Town will maintain its appeal and character for residents and employers while adjusting services, operations, and development to reflect evolving resident preferences, demographics, and growth.

Town of Milton Strategic Themes

- 1. Invest in People - We will invest in a more permanent, balanced, and highly skilled workforce required for Vision 2051, making the Town of Milton an employer of choice where diverse and talented staff are able to offer superior service and productivity in a period of rapid change.*
- 2. Innovate in Technology and Process - We will focus substantial investments in technology, process improvements and meaningful partnerships to improve customer service, embed sustainable practices and create a foundation for flattening long-term costs.*

3. *Quality Facilities and Amenities - We will deploy adequate and consistent resources to maintain, operate and intensify the use of parks, facilities, and other Town-owned assets, improving resident safety and quality of place.*
4. *Connected Transit and Mobility - We will accelerate investments in Milton-owned transit assets, so these connect to other services, increase transit ridership, and help pedestrians and cyclists navigate our community defined by smart density, placemaking, mobility and economic development.*
5. *Planned Community Growth - We will plan and build infrastructure that supports the changing needs of our community as we prepare for a future with higher density, mixed-use neighbourhoods that offer an excellent quality of life.*

MFRS future development is determined by the department's master plan, which provides a long-range strategic planning framework to guide their priorities and objectives.

3.2.4 Command Structure

Effective emergency services operations rely on a clearly defined command structure to ensure safe, coordinated, and efficient incident management. A recognized incident command system supports the following outcomes:

- Clear identification of the lead agency (fire, police, EMS, or other)
- Maintenance of appropriate span-of-control over all resources
- Interoperability with allied and responding agencies
- Defined tactical objectives and operational benchmarks
- Standardized communication protocols
- Enhanced situational awareness and overall scene safety

MFRS employs the Blue Card Command System, an industry-recognized incident command framework that aligns with NFPA 1561 – Standard on Emergency Services Incident Management System and Command Safety. All MFRS suppression staff receive training in the principles of the Incident Command system, which provides a scalable and adaptable approach to managing all-hazards emergency responses. The system is fully implemented across the organization and is applied at all incidents, allowing for seamless expansion or contraction of command roles based on the size and complexity of the event. The Blue Card system also ensures compatibility with unified command structures and facilitates integration with external emergency management agencies when required.

3.2.5 Remuneration, Recruitment, Selection, Retention, Promotion

3.2.5.1 Remuneration

The Town of Milton is committed to recruiting the best candidates possible. Competitive salaries and benefits are offered to all their full-time positions. The municipality maintains a Collective Agreement with the unionized fire work force that details working conditions and compensation for its employees. This Collective Agreement is between the Corporation of the Town of Milton and the Milton Professional Firefighters Association.

Most employer-employee issues are handled through discussion up to and including the grievance procedures stipulated in the Collective Agreement. Competitive salaries, benefits and working conditions for each position is negotiated and form part of the Collective Agreement. The MFRS Fire Chief and Deputy Chiefs' working conditions, remuneration and other terms of conditions of employment are determined by the CAO and approved by Council.

3.2.5.2 Recruitment

Recruitment is a key function of all emergency service agencies. The community places a tremendous amount of faith in their fire department personnel, trusting them to provide the highest level of service when the public is most vulnerable. As such, the process used to select personnel should be very comprehensive.

Experience within the emergency services industry has shown that relaxing the requirements for entry-level positions is not the answer for recruiting an employee. Instead, most departments have had the greatest success when qualified applicants are encouraged to apply. This process often involves targeted advertising and promotional campaigns aimed at demonstrating the benefits, as well as the personal satisfaction of becoming part of the fire service. The expected requirements for residency, required training, and attendance must be clearly explained early in the process. Existing staff should be encouraged to participate in any such campaign.

MFRS, like other fire services in North America, trains, maintains, and equips its firefighters and fire prevention/inspection staff to the recognised standards for the services being delivered. As this requires substantial investment in both financial and resource commitments, recruit selection should be carefully managed.

The process for recruiting applicants for vacant positions is established. Full time firefighter positions are recruited from part time employees, which results in a higher rate of turnover for part time staff. Job postings, including minimum requirements and process, are listed on the municipal website. Most interview participants suggested that MFRS recruiting efforts were successful in attracting quality applicants. Hiring full time staff from the part time complement ensures that skills are adequately assessed prior to hire but may also limit the municipality from attracting the best staff available.

Our review of the recruitment process, along with interviews results indicates that the recruiting processes for career firefighters and fire prevention/inspectors have generally been successful in identifying excellent candidates. More recently, there has been a need to recruit from external sources as internal candidates for some positions are limited or non-existent. Efforts geared to succession planning may assist in developing internal staff for officer positions that they may not feel ready to take or are unwilling to pursue due to lack of understanding of roles and responsibilities.

Vacancies are uncommon in the MFRS. Opportunities typically occur as firefighters, inspectors, and training officers are promoted into the officer or chief ranks as positions become vacant or are newly created. Available positions are posted internally and on the Town of Milton website for external hires with a defined opening and closing application submission period.

3.2.6 Selection and Training for New Staff

3.2.6.1 Firefighters

MFRS has comprehensive selection processes for recruit firefighter positions. After submitting their application and meeting the minimum qualifications, candidates are required to move through a multi-stage process. Applications are only accepted when there is an open competition, and candidates who meet all the initial requirements begin the following process:

- Completed applications and supporting documentation must meet all the minimum qualifications.
- Candidates are encouraged to attend an orientation session prior to submitting an application.

- Once the complete application package is received by HR and reviewed by HR and senior fire staff, the candidate may be selected to continue the process, which includes:
 - Take aptitude screening test
 - Pass an occupational physical assessment and acrophobia test
 - Attend an interview
 - Submit supporting documentation

Following selection, all part time staff are required to participate in four months of training before a gradual introduction to responding to incidents over the following eight-month period before they are able to respond fully. The minimum qualifications for all MFRS firefighters include:

- Be a Canadian citizen or have legal entitlement to work in Canada.
- Be a resident of Milton to apply.
- Have a high school graduation diploma (OSSD) or academic equivalent.
- Be able to understand and communicate in English under stress.
- Have an Ontario class G driver's licence and a good driving record (provide a recent drivers abstract within 30 days).
- Submit a Criminal Records Check with Vulnerable Sector Screening.
- We also recommend that you:
 - Have a CPR and First Aid certificate.
 - Have an Ontario class D driver's licence with Z air brake endorsement.
 - Are capable of handling intense and sustained physical activity.

3.2.6.2 Fire Inspector, Fire and Life Safety Officer and Training Officer

The Collective Agreement provides language for the posting and selection process for Fire Inspector, Fire and Life Safety Educator and Training Officer positions. Vacancies are internally posted to MFRS personnel who can apply if they meet the minimum qualifications. If there are no qualified internal candidates, positions are posted externally.

Career full-time employee retention is not generally an issue for MFRS. Retirement, promotions, and attrition are the most common reasons for vacancies. Resignations are more common in part time ranks as candidates depart for full time opportunities in other municipalities. Unanticipated retirements or resignations can result in significant challenges to maintaining a sufficient pool of staff in each position that may also impact service delivery and budgets.

3.2.7 Promotions and Advancement

The selection and/or promotional process for administrative positions is filled through a competitive process and appointment. Promotion eligibility for positions from probationary firefighter to unionized Captain's rank and above is contained in the Collective Agreement between the Town of Milton and the Milton Professional Firefighters' Association.

3.2.8 Succession Planning

MFRS is entering a period of growth and development. As the Town continues to expand, MFRS is proactively positioning itself to meet emerging demands by investing in its people and enhancing leadership capacity. Many of the current supervisory and management roles have been filled through internal promotions, showcasing the department's commitment to nurturing talent from within. This organic approach provides a strong foundation upon which to build a more structured and forward-thinking succession planning program, one that ensures leadership continuity, enhances operational readiness, and supports a positive workplace culture.

The addition of Platoon Chiefs, internal promotion of Captains, and the utilization of Division Chiefs reflects the department's depth of commitment and operational experience. However, as these leaders transition into new roles, the need for intentional leadership development and mentorship becomes more apparent. Succession planning offers an opportunity to strengthen the leadership pipeline by equipping future leaders with the tools, confidence, and competencies required for success. With strong public support, a collaborative internal culture, and a motivated workforce, MFRS is well-positioned to introduce a tailored leadership development framework that is both motivated and achievable.

A formal succession planning initiative would establish clear pathways for advancement and prepare staff to take on increasingly complex roles across all divisions and sections. This could include leadership coaching, project management training, exposure to policy development, and mentorship opportunities with senior officers. Structured development opportunities ensure that as the department grows, both in staffing and scope of services, it can rely on a confident and capable leadership team that reflects MFRS's values, commitment to excellence, and community-focused mission.

With additional fire stations, enhanced technical response capabilities, and potential expanded dispatch functions on the horizon, now is an ideal time to invest in people. A strong leadership team will be essential to guide operational staff, support emerging service models, and manage the complexity of an all-hazards environment. By embedding succession planning into its long-term strategy, MFRS can ensure that leadership transitions are smooth, future challenges are met with confidence, and organizational knowledge is retained and passed forward. This investment in leadership will support the department's ability to adapt, innovate, and deliver the high level of service the Milton community has come to expect.

Observation #3: MFRS is undergoing rapid growth, with internal promotions filling many key leadership roles. While this speaks to the strength of internal talent, it has also created challenges for newly promoted officers, particularly in Operations, who are still developing their leadership skills, project management capacity, and confidence in decision-making. This transition has been especially difficult due to the limited availability of formal training, mentorship, and structured succession pathways. Additionally, many current leaders were promoted from within and may not have had the opportunity to fully prepare for their new responsibilities, resulting in a noticeable performance gap and reliance on informal peer support.

Further compounding the issue is a hesitancy among staff to pursue leadership roles. This is often due to fear of leaving their crews, lack of clarity about the responsibilities of management roles, and limited visibility into advancement opportunities. The absence of a formal succession planning framework places strain on existing leadership, makes workforce planning reactive rather than strategic, and increases the risk of burnout among middle managers. With continued organizational growth, added service pressures, and the introduction of new fire stations and disciplines, MFRS must prepare its future leaders through intentional planning and structured development.

Recommendation #3: Implement a formal Succession Planning and Leadership Development Program that identifies, mentors, and prepares future leaders across all divisions. This program should include career pathing, targeted training, leadership shadowing, and secondment opportunities tied to the Fire Master Plan implementation timeline and operational growth triggers.

Suggested completion: 12-24 months

Cost: Cost neutral

Strategic Objective: Administration

Rationale: *A structured succession plan will provide MFRS with the tools to ensure stable and sustainable leadership as the organization expands. By proactively preparing internal candidates for future leadership roles, the department can ensure smoother transitions, maintain service continuity, and enhance confidence among both operational staff and senior leaders. This approach also supports a healthy workplace culture by reducing the stress of reactive promotions and increasing transparency in career progression. It empowers personnel to see a future in the organization and understand what is required to advance. Moreover, as MFRS activates new facilities (e.g., Station 6 and 7), expands technical disciplines, and considers broader responsibilities such as regional dispatching, having a confident, capable leadership team is essential. Succession planning ensures the department is not only prepared to respond to operational needs, but also to lead strategically, manage projects, and mentor others, key capabilities that will define MFRS's success over the next decade. This investment in people will be critical to building resilience, managing change, and delivering on the Town of Milton's broader service expectations.*

3.2.9 Health and Wellness

The active pursuit of employee health and wellness is extremely important to an organization. The benefits may include but not limited to:

1. Early recognition and treatment of illness
2. Reduction in absenteeism due to short/long-term illness
3. Decreased injuries during normal duties
4. Decreased workers' safety and insurance board (WSIB) premiums
5. Increased employee career longevity
6. Improved work/life balance

The Collective Agreement contains language for the provision of benefits for:

- Accident or occupational illness incurred in the performance of employee duties through Workplace Safety and Insurance Act of Ontario.
- Sick leave allowance
- Hospital-Medical Insurance
- Group Life Insurance
- Accidental Death and Dismemberment/Line of Duty Death
- Health Care Spending Account (for retirees)
- Bereavement Leave
- Pregnancy and Parental Leave

MFRS has an established Occupational Health and Safety committee with representation from administration, the Association, and part-time staff, with a multi-site agreement in place. Health and wellness initiatives are in place and standard operating policies and guidelines are established to ensure safe practices and procedures are followed.

MFRS has updated the existing fire stations where possible with the health and safety of their staff a priority, including exhaust extrication systems, PPE gear extractors, laundry facilities, fitness areas and equipment, and other measures to mitigate potential health and safety risks to staff.

The mental health of first responders is an issue that has garnered considerable attention over the past 10 years. As identified in the International Association of Firefighters Wellness-Fitness Initiative Manual¹⁵, “a firefighter’s work is characterized by long hours, shift work, disruptions in sleep patterns, sporadic high intensity situations, strong emotional involvement, life and death decisions and exposure to extreme human suffering.” Over time, this type of work can impose considerable stress on some individuals.

The Town of Milton provides health and wellness programs for its employees, including an Employee and Family Assistance Program. A separate EAP program is available to fire staff related to trauma care. Group benefits are included in the collective agreement for full-time career firefighters. Workers’ compensation benefits are in place through the provincial Workplace Safety Insurance Bureau (WSIB).

¹⁵ Joint Labor Management Wellness-Fitness Initiative, 4th Edition, p.48

An effective health and wellness program tailored around the demands of a firefighter takes a holistic approach, including physical and emotional fitness. These programs should promote regular fitness assessments and support, injury protection and early detection of occupational illness such as cardio and cancer screening. An excellent resource for the key concepts of an effective firefighter health and wellness program is in the IAFF Joint Labor Management Wellness-Fitness Initiative, 4th Edition. Properly outfitted fitness rooms allow opportunities for staff to maintain the strength and cardiovascular necessary to meet the demands of their positions.

Recognizing the unique challenges and programs available for the mental and physical wellbeing of firefighters, an industry-specific health and wellness program implemented and available to all firefighters is an important component within the core services of the department. There are many new opportunities provided at a provincial level, including programs like Warrior Health¹⁶ that allow for low cost/ no cost services to be accessed by a fire service.

3.2.10 Policies, Procedures, and Guidelines

Emergency response is dynamic, where split-second decisions are made to protect the lives of the public and their fellow responders. Therefore, the safe and effective operation of the fire service must have an industry-specific set of policies, procedures, and guidelines. Policies will outline expectations, while procedures are the accepted ways of adhering to these policies.

SOGs are a set of documented expectations for staff to follow to achieve a desired goal during an emergency event. SOGs are considered at emergency scenes where there is some flexibility on how activities are conducted, considering the safety of the public and emergency responders. SOPs, however, are formal policies that specify a course of action, thereby ensuring efficiency, predictability, consistency, and safety for all staff, including firefighters operating on the fireground. The Ontario OHSA is the foundational document by which a strong internal responsibility system is established in the workforce. The employer has the ultimate responsibility for the health and safety of all workers in the workplace; however, every employee has the responsibility to adhere to policies, procedures and guidelines that are meant to keep them, their coworkers, and the worksite safe.

¹⁶ <http://warriorhealth.ca/>

A critical tool in the employer's scope of responsibility is the establishment of approved policies, procedures, and guidelines. All these documents must be appropriate for the situation, vetted, approved, and documented. It is the employer's responsibility to develop, institute and establish compliance. The employees have a right to know about potential hazards in the workplace, a right to participate, and in certain circumstances, a right of refusal.

MFRS has a comprehensive list of standard operating policies and guidelines for emergency and non-emergency operations.

3.3 Fire Public Education Services

Goal #2: Develop and implement fire safety education campaigns that targets risks identified in the CRA to raise awareness about fire prevention, the importance of fire safety practices, and what to do in an emergency.

The *Fire Protection and Prevention Act* require, at minimum, that fire services “establish a program in the municipality which 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.”

Public education programs and active involvement in the community are important efforts that inform and engage citizens to think about fire safety and risk reduction. Fire safety is everyone's responsibility, which is why it is critical that everyone plays a role in keeping themselves and others safe through prevention, detection, and escape.

Milton Fire & Rescue Services provides a range of fire safety programs in an effort to modify the behaviors and attitudes of individuals regarding fire safety.

MFRS has identified a number of activities to support fire safety education in the community, including the following programs available for booking through the Fire and Life Safety Educator:

- In-Person and Virtual Classroom Visits
- Station Tour (Kindergarten-Grade 12)
- Fire Truck/ Firefighter Visit (Kindergarten-Grade 6)
- Home Hazard House (Grade 3 & 4)
- On Your Own at Home (Grade 7 & 8)
- What's Cooking for Teens (Grade 9-12)
- Fire Safety with Older Adults
- Fire Safety for Tenants/Landlords
- Fire Safety for Newcomers LINC or ESL

The following public education events have been held over the past three years:

Public Education Events	2022	2023	2024
Community Event	17	26	58
Fire Drill	14	19	24
Cooking for Teens		1	
Emergency Preparedness			6
Fire Extinguisher Training	8	21	16
Fire Prevention Week	5	2	
Fire Safety Talk	2	8	11
Grade 3 Program	17	17	
Grades 7 & 8 Program	21	48	72
School Visit	1	1	19
Station Tour	14	29	25
Tapp-C	1		
Truck Visit	11	68	46
Total	111	240	277

Note: In 2024, MFRS reached a total of 24,588 through the public education programs offered.

MFRS has a single Fire and Life Safety educator to develop and deliver all of the public education programs offered by the service. Staffing is augmented through the use of on-duty firefighters, who assist in offering programs such as residential smoke and CO alarm programs (as well as some fire inspection activities). With continued limited staffing, fire suppression staff trained in NFPA 1035 – Standard for Fire and Life Safety Educator are better able to assist in effectively delivering fire safety education programs. As additional programs recommended in this section are developed, MFRS will need to evaluate staffing levels to determine the point at which additional dedicated Fire and Life Safety Educators are required.

MFRS also has a strategic communications and marketing plan to assist the department to improve awareness, educate the public, and promote programs and services. The intent is to raise awareness and keep MFRS staff, partners, local communities, and other stakeholders informed of activities, plans, key messages, and progress towards achieving MFRS’s business goals.

The strategic communications and marketing plan provides a framework to actively encourage two-way communication and constructively use the comments and feedback received from staff, partners, communities, and other stakeholders.

The recent Community Risk Assessment identified 15 risks of moderate or high levels and 22 key findings. From the CRA, MFRS can structure and prioritize public education programs on the risks identified, including targeting smoke alarm safety in all residential homes. One of the most significant challenges facing MFRS is the predominance of residential (Group C) occupancies, which comprise nearly 90% of the building stock and account for the vast majority of fire-related injuries, fatalities, and property loss.

Alarming, 100% of fire-related fatalities and 85.71% of fire-related injuries occurred in Group C buildings between 2018 and 2022. Contributing factors include a concerning rate of absent or malfunctioning smoke alarms and an aging housing stock, with over 16.5% of structures built prior to the implementation of modern building and fire codes. These risks are further compounded by the introduction of Additional Dwelling Units (ADUs), which increase building occupancy and complexity without adequate pre-incident identification systems.

The following statistics are drawn from the 2024 CRA report:

- Residential occupancies represent 89.65% of the existing building stock, with 52.48% of those being single-detached homes.
- Over the period from January 1, 2018- 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.
- 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. Incidents where a smoke alarm was present but failed to operate accounted for 13.33%.

Observation #4: Milton Fire & Rescue Services (MFRS) currently delivers general fire safety education across the community; however, the program is not formally guided by a documented annual plan that aligns with risk data, incident trends, or demographic shifts. Findings from the Community Risk Assessment (CRA) highlight specific patterns, such as higher fire loss in Group C residential occupancies, inconsistent smoke alarm compliance, and rising concerns around Additional Dwelling Units (ADUs), that should directly inform public education priorities. Additionally, while MFRS collects some program participation data, it lacks a centralized system to track, evaluate, or adapt programming based on geographic impact, community risk, or audience engagement.

Recommendation #4a: Use the findings of the Community Risk Assessment (CRA), incident data, and geographic analysis to inform the development of annual public fire safety education plans. Programming should be updated each year to reflect emerging risks, demographic shifts, and local trends in fire incidents, smoke alarm compliance, and vulnerable occupancy types.

Recommendation #4b: Implement a GIS-based predictive analysis model and develop a participant tracking and evaluation system to monitor the reach and impact of public education programs.

Suggested completion: 1-12 months

Cost: None

Strategic Objective: Public Education

Rationale: *Developing a data-informed annual public education plan ensures that fire safety outreach is targeted, relevant, and responsive to evolving community needs. By incorporating findings from the CRA, incident response data, and demographic analysis, MFRS can more effectively allocate resources to address emerging risks and improve fire safety outcomes. Updating the plan annually ensures responsiveness to trends such as population growth, shifts in building stock, and recurring fire causes, while reinforcing a performance-based approach to community risk reduction.*

Implementing a GIS-based predictive analysis model and participant tracking system will further enhance the department's ability to evaluate the reach, equity, and effectiveness of its fire safety programs. These tools will allow MFRS to identify underserved areas, measure outcomes, and ensure accountability by linking public education investments to risk reduction results. A modernized, data-driven approach not only supports strategic planning but strengthens transparency and improves the department's ability to demonstrate public value through measurable community impact.

Demographic and economic trends further influence Milton's risk profile. The growing population includes a high proportion of seniors (10.47%) and children under 14 (22.20%), both considered higher-risk groups in fire safety. Milton also has a large newcomer population, with language diversity necessitating tailored public education and fire prevention messaging.

Observation #5: Milton's growing, and diverse population presents both opportunities and challenges for fire prevention and public education. With nearly 40% of residents identifying as newcomers, 10% above the provincial average, and a wide range of languages spoken in the community, there are evident cultural, linguistic, and socioeconomic barriers that may impact fire safety awareness, particularly among vulnerable and equity-deserving populations. Additionally, Community Risk Assessment data shows that fire-related injuries, fatalities, and property loss are disproportionately concentrated in specific residential areas and building types, including Group C occupancies and areas with Additional Dwelling Units (ADUs). At present, MFRS does not have a formalized framework that combines demographic insights, GIS risk mapping, and stakeholder feedback to guide public education efforts. As a result, education and outreach programs may not be fully aligned with the unique needs and risks faced by specific neighbourhoods or populations.

Recommendation #5a: Develop and deliver targeted fire safety programs tailored for vulnerable and equity-deserving populations, incorporating input from community stakeholders, cultural organizations, and social service providers.

Recommendation #5b: Leverage community data, GIS mapping, and stakeholder engagement to guide the development of fire safety programming tailored to the needs of specific neighbourhoods and population groups.

Suggested completion: 12-24 months

Cost: Minimal – may be costs associated with translation services

Strategic Objective: Public Education

Rationale: To effectively reduce fire risk and improve safety outcomes, MFRS must develop and deliver public education programs that are responsive to the unique needs of vulnerable and equity-deserving populations. Partnering with cultural organizations, community stakeholders, and social service providers allows the department to co-design fire safety messaging that is culturally appropriate, linguistically accessible, and sensitive to the lived experiences of those most at risk. Tailored education efforts can build trust, improve engagement, and help bridge critical knowledge gaps, particularly among seniors, newcomers, low-income families, and residents of multi-unit or high-density housing.

By leveraging community risk data, GIS mapping, and neighbourhood-level engagement, MFRS can prioritize public education efforts where they are needed most, targeting areas with high fire call volumes, absent or malfunctioning smoke alarms, or significant growth in Additional Dwelling Units (ADUs). This data-driven approach ensures that limited resources are deployed strategically, with a focus on impact, equity, and measurable outcomes. Integrating evidence-based planning with collaborative outreach strengthens the department's ability to prevent fires, reduce injuries and fatalities, and build a more resilient, informed community.

3.4 Fire Prevention

Goal #3: Implement a program for proactive fire safety inspections for residential, commercial, and public buildings to ensure compliance with fire prevention codes, identify fire hazards, and encourage timely maintenance and repairs to non-compliant issues.

3.4.1 Fire Prevention Services Overview

As departments increase their emphasis on fire prevention activities, communities see a reduction in fire-related losses. In Ontario alone, deaths caused by fire have been reduced over the last 70-75 years from 354 deaths reported in 1956 to 111 deaths reported in 2024. Although difficult to directly measure, effective fire prevention programs reduce fire-related deaths and property loss proportionately to the resources committed. Data collection and analysis will determine the effectiveness of these programs and their impact on the overall reduction of losses.

MFRS relies on the Fire Chief, Deputy Fire Chiefs, the Division Chief of Fire Prevention, and the Fire Prevention Officers as assistants to the Fire Marshal to carry out all directives required within the Fire Protection and Prevention Act, 1997, to the municipality. The FPPA regulations for public education and fire prevention and the projected growth for the Town emphasize the need to ensure appropriate capacity for fire prevention services.

The ability to meet legislative requirements, service expectations, and public safety requirements, relies on the fire service having adequate resources to meet the needs, circumstances, and requirements. MFRS is currently under-resourced to meet the demands. With anticipated growth and a recommended approach to targeted public education, proactive inspection and code enforcement programs, additional staff will be required to be phased in.

Additionally, all Fire Prevention staff must be trained and certified to the appropriate NFPA standards, including NFPA 1031 Fire Inspector Level 2 (level 2 due to the scope of inspection work required), NFPA 1033 Fire Investigator and NFPA 1035 Fire and Life Safety Educator.

3.4.2 Fire Code Inspection Services

Modern building codes, including life safety design and operating requirements, are key components of risk management. Cyclical fire inspection programs for high-risk buildings ensure these systems continue to function throughout the life of the building. This is especially important for high occupancy and special purpose buildings such as apartment buildings, hospitals, seniors housing and schools.

While the benefits of an effective fire prevention program are sometimes difficult to fully quantify, the reduction of fire deaths and injuries in Ontario following the implementation and enforcement of modern building and fire codes illustrates the value. These services are fundamental elements of a broader community fire reduction and life safety strategy. Fire inspections are critical services in identifying fire hazards and maintaining life safety systems. MFRS provides inspection as required under Ontario Regulation 365/13 – Mandatory Assessment of Complaints and Requests for Approval for complaints and requests and Ontario Regulation 364/13 – Mandatory Inspection - Fire Drill in Vulnerable Occupancy.

Fire services should establish service level standards that allow the department to set clear expectations to the public, Council, and staff. Fire prevention and life safety activities and programs industry best practices are outlined in NFPA 1730 and through the Fire Underwriters Survey (FUS). Municipalities should examine these levels based on needs and circumstances and examine the identified risks within the community.

MFRS's current inspection frequency rate, standards for inspections set out by NFPA and FUS is outlined in Table 17. This table also includes the recommended inspection frequency that is considered appropriate for the Town of Milton. This recommended inspection schedule will require additional resources to be added to the staffing complement of the Fire Prevention Division. Additional resources required are detailed in Appendix F, and included in recommendation #8, below.

Table 17: Fire Prevention Inspections Frequency Levels

OBC Building Class	MFRS Current	NFPA 1730	FUS	MFRS Recommendation
A	Schools completed every 2 years, balance of assemblies inspected on complaint/request or required by licensing	12-months	6-months	24-months
B	12-months	12- months	6-months	12-months
C	Currently not on an inspection cycle. Home Safe Home program is done annually, inspections completed on request/ complaint	12-months	6-months	12-months
D	Request/ complaint	36-months	12- months	36-months
E	Request/ complaint	36-months	12- months	36-months
F	Request/ complaint	24-months	6-months	24-months
F - Division 1	New program in 2025, planning for 12-months	12-months	3-months	12-months

In addition to established standards for inspections cycles, municipalities may consider their community risk assessment, such as historical fire data. Predictive analytics and GIS-based risk mapping can be used to identify and inspect properties with higher-risk before incidents take place.

Observation #6: Milton Fire & Rescue Services (MFRS) currently conducts fire inspections based on complaint-driven or scheduled cycles, but lacks a formal, risk-based inspection model that prioritizes properties based on fire history, occupancy type, or known vulnerabilities. The Community Risk Assessment and incident response data reveal that a disproportionate number of structure fires, injuries, and fatalities occur in specific property types, particularly Group C residential occupancies, older buildings, and areas with Additional Dwelling Units (ADUs). Despite this, inspection efforts are not systematically focused on these higher-risk zones. Predictive analytics, when combined with historical incident data and GIS-based risk mapping, present a clear opportunity to proactively identify and inspect higher-risk properties before incidents occur.

Recommendation #6: Utilize predictive analytics using historical data, risk mapping, and response data, identify higher risk areas for targeted code enforcement inspections.

Suggested completion: 24-36 months

Cost: None – can be built in to work schedules of existing staff.

Strategic Objective: Fire Prevention and Code Enforcement.

***Rationale:** Adopting a predictive, risk-based approach to code enforcement aligns with best practices in fire prevention by directing limited inspection resources to where they can have the greatest impact. Utilizing historical data, risk mapping, and incident trends allows MFRS to prioritize inspections in areas with elevated fire risk, including properties with past violations, vulnerable occupancies, and buildings constructed before modern codes. This proactive strategy enhances public safety, improves code compliance, and reduces fire loss by addressing hazards before they escalate. Moreover, targeted inspections support transparency and accountability, by linking inspection outcomes to community risk profiles, ensuring that prevention efforts are both equitable and data driven.*

Observation #7: MFRS currently conducts inspections through a combination of complaint-based and scheduled activities but does not yet operate under a comprehensive risk-based inspection model aligned with provincial guidance. As identified in the Community Risk Assessment, certain occupancies, such as care facilities, schools, assembly occupancies, and multi-unit residential buildings, represent higher risk due to occupant vulnerability, complexity of evacuation, or history of code compliance issues. Industrial properties with high fuel loads and large building footprints present additional challenges. While these occupancies require greater inspection frequency and oversight, lower-risk properties may be appropriately addressed through longer, compliance-adjusted cycles.

Despite clear needs, fire prevention staffing and resources have historically limited MFRS's ability to implement a full-scale proactive inspection program. However, with the availability of property data, incident history, and GIS-based risk mapping, the department has begun and is well-positioned to continue a phased roll-out over a 3–5-year period, allowing alignment with staffing capacity and municipal growth. This approach supports a realistic and scalable implementation strategy while maximizing public safety returns on investment.

Recommendation #7: Develop and implement a phased-in proactive fire inspection program for all building classifications, targeting properties and occupancies based on risk categorization.

Suggested completion: 36-72 months

Cost: None. Inspections to be conducted by existing and future staff (see Recommendation #8 below).

Strategic Objective: Fire Prevention and Code Enforcement.

Rationale: *A phased, risk-based inspection program enables MFRS to prioritize fire prevention efforts where the risk to life safety, property, and community resilience is greatest, while ensuring a manageable workload for existing and future Fire Prevention Officers. Aligning the program with the Office of the Fire Marshal's Risk-Based Compliance Model, ensures regulatory consistency and supports targeted enforcement based on objective data, including occupancy type, compliance history, and past incident patterns. This method promotes transparency, improves accountability, and ensures resources are applied efficiently. Integrating medium and low-risk occupancies into extended inspection cycles, allows MFRS to balance risk management with operational capacity, reducing administrative burden while maintaining oversight. As the program scales over time, phased implementation allows for evaluation, refinement, and staffing adjustments, ensuring the initiative remains sustainable and effective. Ultimately, this strategy supports a modern, data-driven approach to fire prevention that enhances safety, reduces loss, and strengthens public confidence in the fire service.*

Observation #8: MFRS is currently experiencing service gaps in its Fire Prevention Division, driven by increasing call volumes, growing building stock, and rising demand for inspections, code enforcement, and public education. With ongoing residential intensification, the emergence of Additional Dwelling Units (ADUs), and the continued expansion of institutional, commercial, and industrial development, the workload for Fire Prevention Officers (FPOs) is expected to increase significantly over the coming decade. Present staffing levels are insufficient to support proactive inspection cycles, timely follow-up on violations, and meaningful public education engagement across high-risk occupancies.

To address these service deficits and plan for future demand, a phased-in expansion of FPO positions is necessary. This includes the addition of four full-time Fire Prevention Officers (in line with new fire station development, with two staff being assigned to each new station) to support an equitable and sustainable workload. These staffing projections should be formally integrated into MFRS's 10-year staffing and operating budget forecasts, allowing the Town to align prevention resources with community growth, risk, and legislative requirements. Office space and vehicle allocations should also be built into plans for new fire station development recommended by this Master Plan.

Recommendation #8: Implement a phased expansion of Fire Prevention staffing, aligned with current service deficits.

Suggested completion: 36-72 months, in line with new fire station development

Cost: Cost per fire inspector is \$66,392-\$120,712 (2024 rates). The additional salary cost at the end of the phase-in would be approximately \$482,848 (plus benefits) to the operating budget.

Strategic Objective: Fire Prevention and Code Enforcement

***Rationale:** Expanding Fire Prevention staffing in a phased, planned manner ensures MFRS can deliver a comprehensive, risk-based fire prevention program in alignment with the Office of the Fire Marshal's Risk-Based Compliance Model. Additional Fire Prevention Officers will enable the department to increase inspection frequency for high-risk occupancies, improve response to complaints and violations, and deliver more targeted public education to vulnerable populations and high-risk neighbourhoods. This supports community safety and reduces the likelihood of significant fire loss, injuries, or fatalities. Integrating FPO staffing projections into long-term financial planning provides transparency and fiscal responsibility, allowing the Town to gradually build capacity without abrupt operational or budgetary impacts. This proactive approach also strengthens MFRS's ability to meet future service level expectations, legislative mandates, and the demands of a rapidly expanding municipality. A properly resourced Fire Prevention Division is critical to maintaining a balanced approach across all three lines of defense: public education, prevention, and emergency response.*

3.4.2.1 Additional Residential Units (ARUs)

An Additional Residential Unit (ARU), also called an Additional Dwelling Unit (ADU), is a small, fully equipped living space on the same property as the main house. It can be inside the main house, like a basement apartment, or in a separate building on the lot. ARUs can be part of detached houses, semi-detached houses, semi-link houses, or townhouses in Milton. ARUs are also referred to as additional dwelling units, secondary suites, accessory units, basement apartments, coach houses, laneway houses, garden suites, tiny homes, granny flats, in-law apartments or nanny suites.

ARUs help increase housing options and make homes more affordable. They allow property owners to create extra living spaces for renters or family members. This supports a range of housing needs, including affordable rental housing and multi-generational living.

Milton Town Council approved amendments to the Official Plan and Zoning By-law to permit up to three ARUs on a lot containing a detached house, semi-detached house, or townhouse in the urban areas. As such, up to four residential units in total are now permitted on a residential lot with municipal water and sewage services. The amendments came into effect on June 25, 2024.

On April 1, 2025, the Town established a new registration program for ARUs to record critical emergency response information for Fire and Rescue Services, ensuring the safety of ARU occupants and overall compliance with municipal regulations and zoning by-laws for ARUs.

When dealing with ARUs, it is essential to consider fire safety measures, particularly related to inspections and fire safety education. The increase in approval of these units may require additional staffing to ensure compliance with fire safety regulations, both at the approval stage and on an ongoing basis. Furthermore, ARUs might necessitate extra resources or considerations during emergency fire suppression responses. Staffing considerations for MFRS related to growth in the approval of ARUs should be reviewed on an ongoing basis, with reference to Recommendations 6-8.

3.4.3 New Developments Plan Reviews

The building division circulates new development, and construction plans to the fire service for review and comments. In 2024, MFRS completed examination of building plans, blueprints and drawings for new building construction and site inspections of same for 89 sites. It appears the relationship between MFRS, and the building division is strong and very positive.

Having MFRS review new developments and construction plans provides MFRS staff with the knowledge of new developments that are planned and details on unique and potential risks with new buildings. Providing comments aligns MFRS with their building division counterparts and ensures continuity with OBC and OFC once the building becomes occupied. It will be important to ensure staffing levels continue to support this important work as Milton grows and develops in the future.

3.4.4 Fire Cause and Origin Services

All fires in Ontario causing injury, death and property loss are to be investigated for origin, cause and circumstances under the Fire Protection and Prevention Act, 1997. The FPO has direct oversight of the fire investigations program and oversees scheduling, equipment needs and reporting of investigations. The fire investigations in Milton are conducted by the FPOs. Annually the FPOs conduct between 12-16 investigations.

Standard operating guideline FP-001-SOG provides instruction and procedures for managing investigations of a fire incident and maintaining scene security including safe working practices and general duties of fire investigators. Any fires that do not meet the criteria for notifying a Fire Prevention Officer are investigated by the on-scene incident commander.

MFRS has appropriate guidelines and training/certification for conducting investigations, documentation, notification of appropriate agencies and the use of protective equipment.

3.5 Emergency Management

Goal #5: Strengthen its capacity to prepare for, respond to, and recover from all types of emergencies. Through coordinated planning, training, and inter-agency collaboration, the Service will enhance community resilience, safeguard life and property, and support continuity of operations across a broad range of hazards.

Under the Emergency Management and Civil Protection Act (EMCPA), all municipalities in Ontario are required to maintain a comprehensive emergency management program to safeguard the health, safety, and welfare of residents and property during emergencies. The Town of Milton fulfills this obligation through a municipally led program overseen by a dedicated Community Emergency Management Coordinator (CEMC), who works in coordination with the Fire Chief and senior leadership across Town departments.

Milton's Emergency Management Program is guided by the Town's Emergency Response Plan, a Council-approved document that provides the operational framework for mitigating, responding to, and recovering from emergencies. The plan outlines the roles and responsibilities of municipal departments, establishes activation protocols, and ensures alignment with the Province of Ontario's Incident Management System (IMS). This alignment supports consistent response coordination and role clarity during incidents of varying size and complexity.

The CEMC, under the oversight of the Municipal Emergency Management Program Committee (MEMPC), is responsible for the administration, maintenance, and annual review of the Emergency Management Program. This includes the coordination of staff training, emergency exercises, plan revisions, and compliance with the annual requirements of Emergency Management Ontario (EMO). The Fire Chief of MFRS plays a central role in this structure, acting as the designated lead for fire and rescue services within the municipal framework.

The Town's Municipal Emergency Control Group (MECG) is the primary decision-making body during municipal emergencies and includes representation from MFRS, and senior municipal officials. The MECG is activated under the authority of the mayor or designate, who holds the statutory power to declare a municipal emergency. During such events, MFRS provides operational coordination and public safety support while maintaining essential fire and rescue services.

MFRS plays a critical role in emergency preparedness and response, especially in incidents involving fires, hazardous materials, structural collapses, transportation emergencies, and other public safety threats. The department ensures readiness through ongoing multi-agency training, tabletop exercises, and full-scale simulations that test interoperability with regional and provincial partners. These exercises validate response capabilities and strengthen organizational preparedness across all Town departments.

The Emergency Operations Centre (EOC) can be activated physically or virtually, depending on the nature and severity of the event. The Town has designated EOC locations, as well as alternate sites, to ensure the continuity of operations. Activation of the EOC enables centralized coordination of response functions and resource allocation, allowing MFRS and other departments to manage real-time priorities and maintain situational awareness.

The growing complexity of hazards in Milton, such as extreme weather, rail and highway incidents, infrastructure failures, and large public gatherings, requires that the Town's Emergency Management Program remain current, scalable, and adaptable. As the Town's population continues to grow and urbanize, MFRS will play an increasingly integral role in integrated emergency planning, with a particular focus on high-density areas and vulnerable populations.

MFRS personnel regularly support emergency planning initiatives by participating in MEMPC meetings, contributing to hazard identification and risk assessments (HIRA), and maintaining operational readiness through specialized training and certification in IMS and emergency response leadership. This ensures that the department is not only a response agency but also a key planning stakeholder.

In addition to emergency response coordination, the Town's Emergency Management Program must also prioritize business continuity planning to ensure the uninterrupted delivery of critical services during and after an emergency. As municipal operations become more interconnected and dependent on digital systems, disruptions to infrastructure, staffing, or communications can have cascading impacts across departments. MFRS, as a 24/7 essential service, plays a central role in supporting continuity of operations for both emergency and non-emergency functions. This includes maintaining backup systems for dispatch and incident reporting, identifying alternate work locations for critical staff, and ensuring access to essential supplies and communications. As part of its partnership with the CEMC and other Town departments, MFRS should continue to support the development and testing of business continuity plans that align with its operational risks and ensure resilience in the face of increasingly complex emergencies.

In summary, MFRS is an essential partner in the Town of Milton's Emergency Management Program. Its ongoing leadership and operational capabilities ensure that the Town can respond effectively to emergencies and maintain the safety and well-being of residents during times of crisis.

Observation #9: As Milton continues to grow in population, complexity, and service demands, its municipal operations are increasingly reliant on integrated systems, digital infrastructure, and interdepartmental coordination. While the Town maintains an Emergency Management Program and designated Emergency Operations Centre (EOC) protocols, there is currently no formal, division-specific business continuity planning framework to guide individual departments in maintaining critical services during disruptions. In the event of a natural disaster, cyber incident, infrastructure failure, or prolonged staffing shortage, the absence of structured continuity plans may lead to delays in service recovery, gaps in public safety delivery, or prolonged operational outages.

Recommendation #9: Develop and implement a formal, municipality-wide Business Continuity Planning (BCP) framework, requiring all Town divisions to create, maintain, and regularly update business continuity plans tailored to their core functions and operational risks.

Suggested completion: 12-24 months

Cost: Varies on scope and internal vs external

Strategic Objective: Emergency Management

Rationale: Establishing a formal BCP framework will improve organizational resilience, minimize service disruptions during emergencies, and support the Town's ability to protect residents, staff, infrastructure, and critical information. Divisional-level plans ensure that each department proactively identifies its essential services, critical staff roles, technology dependencies, and recovery strategies in the face of unplanned events. For MFRS and other first-response departments, continuity planning is essential to sustaining life safety operations, communications, and incident command functions during prolonged or complex emergencies. A coordinated municipal BCP framework also aligns with public sector best practices and provincial emergency management expectations, reinforcing the Town's capacity to recover quickly and effectively while maintaining public trust.

Observation #10: Milton's Emergency Management Program has traditionally focused on conventional hazards, but the community's rapid growth and changing environmental conditions now require a broader, more dynamic approach. Emerging climate-related threats, including increased frequency of flooding, extreme heat events, wildland-urban interface (WUI) fires, and severe storms, pose escalating risks to public safety, infrastructure, and continuity of operations. Concurrently, urban-specific threats such as high-rise evacuations, infrastructure failures, rail and highway incidents involving dangerous goods, and mass gatherings are becoming more prominent as the town densifies and diversifies.

Despite foundational planning, the current program would benefit from more integrated use of GIS-based HIRA tools, enabling real-time spatial analysis and risk modeling to better evaluate and prepare for evolving hazards. Without proactive updates, the Emergency Management Program risks falling out of alignment with community needs and provincial expectations for risk-based emergency planning.

Recommendation #10: Continue to ensure the Emergency Management Program reflects current and emerging threats.

Suggested completion: 12-18 months

Cost: Neutral

Strategic Objective: Emergency Management

***Rationale:** Milton's Emergency Management Program has traditionally focused on conventional hazards, but the community's rapid growth and changing environmental conditions now require a broader, more dynamic approach. Emerging climate-related threats, including increased frequency of flooding, extreme heat events, wildland-urban interface (WUI) fires, and severe storms, pose escalating risks to public safety, infrastructure, and continuity of operations. Concurrently, urban-specific threats such as high-rise evacuations, infrastructure failures, rail and highway incidents involving dangerous goods, and mass gatherings are becoming more prominent as the town densifies and diversifies.*

Despite foundational planning, the current program would benefit from more integrated use of GIS-based HIRA tools, enabling real-time spatial analysis and risk modeling to better evaluate and prepare for evolving hazards. Without proactive updates, the Emergency Management Program risks falling out of alignment with community needs and provincial expectations for risk-based emergency planning.

3.6 Operations

Goal #4: Provide emergency response services that reflect the community's identified risks, growth projections, and operational realities. Services will be delivered with a focus on health and safety, industry best practices, and a commitment to efficiency, effectiveness, and long-term value for the community.

3.6.1 Structural Firefighting

Fire department resources must be appropriately aligned with the most probable risks within a community. Structural fire suppression involves a broad spectrum of coordinated tactics used to control and extinguish fires arising from various sources, including electrical faults, cooking incidents, heating equipment, and arson. In the Town of Milton, single-family dwellings represent the predominant building stock and thus present the most frequent type of structural fire risk. While fires in these structures are confined to one or two properties and are categorized as low to moderate in overall risk, they remain one of the leading causes of fire-related deaths, injuries, and property loss in Canada.

Though structural fires represent a small percentage of MFRS's overall incident volume, just 1.6% of total emergency responses from 2020 to 2024, they demand a disproportionately high level of preparedness, training, and operational resources. These types of incidents require rapid coordination, sufficient personnel, and specialized equipment to ensure both effective incident resolution and the safety of firefighters and occupants. MFRS personnel are trained to the National Fire Protection Association (NFPA) 1001 Level I and II standards, as mandated by provincial regulations, ensuring all frontline responders possess the requisite competencies for structural fire suppression.

Structural firefighting is inherently complex and time sensitive. Operations requiring entry into a structure for fire control or rescue demand that multiple critical tasks, such as fire attack, search and rescue, ventilation, water supply, and incident command, be conducted concurrently. NFPA 1710 establishes best practice benchmarks for the deployment of personnel and apparatus to meet the operational needs of structural firefighting in a safe and effective manner. For MFRS, achieving these benchmarks requires an Effective Response Force (ERF) assembled from multiple stations to carry out these concurrent tasks without delay. If the appropriate number of personnel is not available upon arrival, life safety operations may be delayed, increasing risks to both occupants and firefighters.

To meet these demands, MFRS maintains a modern and well-equipped fleet of fire suppression apparatus, complemented by a team of full time and part time firefighters trained in structural firefighting tactics and rescue procedures. The current deployment model involves crews responding from the closest fire station using the appropriate apparatus, supported by additional units from other stations to assemble the full ERF as defined in NFPA 1710. This model is designed to optimize response coverage and maximize the department's capacity to respond to structure fires within recognized performance benchmarks.

Ensuring the department has the adequate number of trained personnel and the necessary apparatus to perform critical fireground tasks simultaneously is essential to both public safety and firefighter survivability. As Milton continues to grow in both population and built form, ongoing investments in staffing, training, and equipment will be required to ensure MFRS maintains its ability to meet structural firefighting demands in alignment with community risk and national standards.

3.6.2 High-Rise and Multi-Unit Residential Firefighting Operations

Fire suppression operations in high-rise and multi-unit residential buildings present unique challenges to Milton Fire & Rescue Services (MFRS). High-rise structures, typically defined under the Ontario Building Code (OBC) and Ontario Fire Code (OFC) as buildings with floor levels exceeding 18 metres (59 feet) above grade or six storeys, demand specialized strategies due to their height, complexity, and occupant load. Fire behavior in tall buildings is heavily influenced by vertical air movement and the “chimney effect,” where smoke and heat travel upwards, potentially compromising multiple floors in a short time. The need for vertical response, transporting personnel, hose lines, and equipment up stairwells, delays intervention and increases risk to both occupants and firefighters. These operations require increased staffing to complete critical tasks such as stairwell control, fire attack, search and rescue, ventilation, and firefighter accountability.

Evacuation from high-rise buildings also introduces operational complexity. Limited stairwell capacity, lack of occupant familiarity with emergency procedures, and malfunctioning communication systems can impede safe egress. In many high-rise buildings, “shelter-in-place” strategies are employed, relying on properly compartmentalized units, and working communication systems to protect occupants during an emergency. These strategies are only effective when supported by robust public education, functioning life safety systems, and diligent fire code enforcement. Ensuring all required OBC- and OFC-mandated systems are installed and maintained, such as fire-rated stairwells, sprinkler and standpipe systems, smoke control systems, and firefighter elevators, is essential to occupant and responder safety.

While high-rise buildings introduce operational challenges, modern buildings constructed to current OBC and OFC standards are safer. These buildings incorporate advanced life safety features, including automatic sprinklers, compartmentation, fire detection systems, and smoke control systems that mitigate fire spread and improve the conditions for both evacuation and firefighting. However, as these systems age or are poorly maintained, risk can increase significantly. Therefore, regular inspections, enforcement, and public education campaigns remain essential, even in buildings built to current code.

Milton's building stock is undergoing transformation as the community intensifies its urban core. As of 2024, the Town has 24 existing high-rise buildings, with an additional 36 either under construction or planned. These structures are primarily concentrated in Milton's urban centre and signal a broader shift toward vertical residential and mixed-use development. In parallel, the introduction of Additional Residential Units (ARUs), following changes to the Planning Act under Bill 23, permits the development of multiple units within single-detached, semi-detached, and townhouse dwellings. This change is expected to significantly increase the number and diversity of residential units in the community, particularly in established neighbourhoods.

Multi-unit residential buildings, both low-rise and high-rise, bring distinct fire protection challenges. Shared egress routes, interconnected systems, complex floor layouts, and the potential for rapid fire spread between units require a coordinated, multifaceted response. Firefighters must often manage simultaneous suppression, ventilation, and rescue operations under difficult conditions. Additionally, older buildings and unauthorized dwelling units may lack adequate fire separation, smoke alarms, or access for fire apparatus, compounding risk during emergency response. As more ARUs and informal conversions emerge, MFRS must remain proactive in identifying, inspecting, and preparing for these higher-risk occupancies.

Current residential building stock data from 2021 illustrates the evolving landscape. Single-detached dwellings represent 58.5% of homes in Milton, followed by row houses (27.8%) and semi-detached homes (13.3%). Apartment buildings comprise less than 1% of the total, far below Ontario's provincial averages. However, with infill development, secondary plan buildouts, and increasing demand for affordable housing, this ratio is expected to change significantly. This densification will likely lead to increased call volumes in higher-risk structures, longer operational durations, and heightened staffing demands for MFRS.

To address these trends, MFRS must continue to invest in firefighter training, inspection programs, pre-incident planning, and fire prevention initiatives tailored to multi-unit and high-rise residential occupancies. Building relationships with property managers and enforcing fire code compliance will help reduce risk. As Milton transitions toward greater density and vertical growth, aligning operational capabilities with the town's evolving residential profile will be essential to maintaining public safety and effective emergency response. A forward-looking, risk-informed approach will ensure that MFRS remains ready to meet the complex demands of high-rise and multi-unit firefighting in the years ahead.

Observation #11: Milton's housing landscape is undergoing a significant transformation, marked by a rise in Accessory Residential Units (ARUs) as part of the Town's broader intensification and affordability strategy. Recent zoning and planning amendments, aligned with Ontario's More Homes Built Faster Act, have facilitated the development of secondary suites, basement apartments, and detached garden suites within established neighbourhoods.

While this trend enhances housing diversity and density, it also presents distinct fire safety and operational challenges. Many ARUs are retrofitted into older single-detached homes, often featuring limited access, restricted egress routes, and inconsistent code compliance. These conditions can complicate fireground operations, prolong search and rescue efforts, and increase occupant vulnerability, particularly when units are concealed from the street or lack adequate fire separations and detection systems.

Currently, Milton Fire & Rescue Services (MFRS) does not have a dedicated system to track, categorize, or analyze incidents specific to ARUs. These calls are embedded within general residential response data, making it difficult to isolate ARU-related risks, incident frequency, or staffing implications. As the number of ARUs continues to grow, especially in older suburban areas and intensifying urban nodes, this data gap limits the department's ability to accurately assess workload impacts and emerging risk patterns.

Recommendation #11: Implement a systematic process to monitor and analyze fire incident trends related to high-rise buildings and ARUs, including response frequency, nature of incidents, and resource deployment per event. This information should be integrated into annual operations reviews, staffing and apparatus planning, and targeted training and public education initiatives.

Suggested completion: 12-18 months

Cost: Varies on scope and internal vs external

Strategic Objective: Operations

Rationale: Implementing a systematic process for tracking ARU-related incidents alongside the trends in high-rise and ARU settings will enable MFRS to make evidence-based decisions that improve service delivery and operational readiness. By analyzing the frequency, severity, and characteristics of incidents, such as the number of apparatuses required, staffing time on scene, and nature of occupant rescues, the department can identify recurring patterns, emerging risks, and capacity gaps. These insights are critical to informing annual operating reviews, shaping deployment models, and supporting the development of future staffing forecasts, particularly as Milton's vertical growth continues and housing densification accelerates in established neighbourhoods.

Incorporating these data-driven findings into broader fire service planning also supports the alignment of training programs, inspection priorities, and public education efforts with real-world risk. For example, if analysis reveals a concentration of kitchen fires in ARUs or prolonged response times in high-rise incidents, MFRS can respond by tailoring fire prevention messaging, expanding building-specific training, or revisiting apparatus placement strategies. Ultimately, a robust monitoring process will ensure that MFRS remains agile, risk-informed, and capable of maintaining effective response standards across a rapidly changing urban and residential environment.

3.6.3 Medical Assist

Medical assist is a valuable core service provided by Milton Fire & Rescue Services (MFRS) as part of its all-hazards emergency response model. Although medical incidents accounted for 7.24% of total call volume from 2020 to 2024, they represent a growing area of operational demand. Notably, medical/resuscitator calls more than tripled during this period, increasing from 80 in 2020 to 318 in 2024. These calls often involve life-threatening conditions, such as cardiac arrest, overdose, or severe respiratory distress, where MFRS's rapid response, enabled by its strategically located fire stations, can provide immediate life-saving intervention before the arrival of paramedic services. Early intervention during these time-sensitive events significantly improves patient outcomes and aligns with MFRS's mission of protecting life and property.

MFRS operates under a medical response framework in collaboration with Halton Region Paramedic Services. In July 2025, this collaboration was further strengthened through the adoption of a fully tiered medical response agreement. This formalized and modernized the medical response criteria used by MFRS, clearly defining the medical incident types that trigger a fire department response.

These include cardiac arrest, opioid overdose, seizures, unconscious patients, severe allergic reactions, and respiratory compromise. The agreement ensures that fire resources are dispatched only to medically critical calls, maintaining capacity for fire suppression and other emergency responsibilities while continuing to deliver rapid, effective patient care when minutes matter most.

The implementation of the Medical Priority Dispatch System (MPDS) at the Central Ambulance Communications Centre (CACC) also plays a pivotal role in MFRS's tiered response model. MPDS enables dispatchers to apply medically validated triage algorithms during 9-1-1 calls, assigning priorities based on symptom severity and risk to life. This system ensures consistency, reduces unnecessary fire department responses to low-acuity events, and helps optimize resource allocation across the EMS system. Through integration with MPDS, MFRS aligns its dispatch protocols with best practices and enhances inter-agency coordination with paramedic services.

All front-line MFRS firefighters are certified in First Responder care, including CPR, AED use, oxygen therapy, and basic trauma management. From 2020 to 2024, MFRS administered CPR 120 times and used defibrillators in 11 incidents, highlighting the critical life-saving role fire personnel play in medical emergencies. The department also has a designated Medical Director who provides oversight and delegation for medical interventions such as defibrillation and intranasal naloxone administration, ensuring clinical accountability and alignment with provincial medical standards.

As Milton continues to grow and diversify, the demand for fire-based medical response is expected to increase. The adoption of the tiered agreement and integration with MPDS reflect a proactive approach by MFRS to evolve its medical response capabilities in step with best practices and community need. Ongoing medical training, clinical oversight, performance monitoring, and collaboration with regional EMS partners will ensure that MFRS continues to deliver timely, high-quality medical care while balancing its broader emergency response responsibilities.

Observation #12: Milton Fire & Rescue Services (MFRS) plays an increasingly vital role in the delivery of frontline medical care as part of its all-hazards emergency response model. While medical incidents represent a smaller percentage of total call volume (7.24% from 2020–2024), the sharp increase in high-acuity medical/resuscitator calls, tripling over a four-year period, demonstrates a growing community reliance on fire-based medical response. MFRS often supports ambulance services, initiating critical interventions that can significantly impact patient outcomes. The department currently operates under a tiered response agreement with Halton Region Paramedic Services, supported by a designated medical director who ensures clinical oversight and regulatory compliance. However, the evolving nature of emergency medical dispatch, particularly with the phased implementation of the Medical Priority Dispatch System (MPDS), necessitates a review and update of the existing framework to reflect new triage algorithms, local response trends, and the expanding capabilities of First Responders.

Recommendation #12: Continue to regularly update tiered medical response framework through renewed collaboration with Halton Region Paramedic Services, and the MFRS medical director to refine response protocols. Clarify the scope of clinical practice for First Responders and ensure alignment with system-wide changes such as the implementation of MPDS.

Suggested completion: 1-12 months then ongoing.

Cost: Neutral

Strategic Objective: Operations

***Rationale:** Updating the tiered medical response agreement is essential to maintaining clinical effectiveness, operational efficiency, and alignment with system-wide improvements in emergency medical services. As MPDS refines how incidents are prioritized and dispatched, clear protocols are needed to ensure MFRS is mobilized only when fire-based intervention provides a measurable benefit to patient outcomes. A collaborative review involving Halton Region Paramedic Services and the MFRS medical director will allow for evidence-based adjustments to the call types that trigger fire response, while also clarifying the clinical scope of practice for MFRS personnel. This ensures that firefighters are deployed appropriately, equipped with current medical directives (e.g., naloxone or EpiPen administration), and trained to meet evolving expectations. Such an update supports system sustainability, enhances patient care, and reinforces MFRS's role as a proactive, high-performing partner in regional emergency medical services.*

3.6.4 Hazardous Materials/Dangerous Goods Response

Hazardous materials (hazmat) incidents, including those involving dangerous goods, present complex and high-risk challenges to emergency responders, the public, and the natural environment. These incidents range in severity from minor fuel spills to large-scale chemical releases and transportation-related events. While infrequent, the potential consequences of these occurrences are significant. The Town of Milton's Hazard Identification and Risk Analysis (HIRA) classify chemical incidents as having an unlikely likelihood score, paired with a medium consequence rating, resulting in an overall high-risk classification. This elevated risk is primarily driven by the potential for major spills occurring on provincial highways, rail corridors, waterways, and within residential neighbourhoods. As such, the response capabilities of Milton Fire & Rescue Services (MFRS) must reflect both the community's risk profile and nationally recognized response standards.

The Community Risk Assessment identified 70 properties within Milton as having a potentially high fuel load, increasing their fire risk and potential exposure during hazardous materials incidents. In addition, Milton is intersected by multiple designated dangerous goods transportation routes, including Highways 401, 407, and 25, where large volumes of hazardous materials are transported regularly. The Guelph Junction Railway operates rail lines through rural, urban, and environmentally sensitive areas of the municipality, including areas near farmland and water bodies, with cargo that includes dangerous goods. The proposed development of a new intermodal rail facility in south Milton is expected to bring increased rail traffic, storage capacity, and a corresponding increase in hazmat-related risk exposure.

Response competencies for hazardous materials incidents are governed by NFPA 1072: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents, which outlines three service levels: awareness, operations, and technician. MFRS currently operates at the operations-level, which equips personnel to perform defensive actions such as damming, diking, absorption, and scene control using personal protective equipment (PPE). Firefighters at this level can support rescue and containment activities within the hot zone and are trained to establish decontamination zones to protect personnel and the public. These competencies enable MFRS to take immediate, measured actions that help prevent escalation until more advanced support arrives.

The technician level, which involves offensive operations to contain or neutralize hazardous material releases, requires specialized hazmat suits, technical tools, and advanced training. Due to the significant financial and logistical requirements associated with this level of service, technician response is typically provided by large metropolitan departments or contracted third-party providers. In the event of a large-scale or complex hazardous materials incident, MFRS would activate established mutual aid agreements and request support from the Ontario Fire Marshal's (OFM) Provincial Hazmat Response Team or other external agencies equipped for technician-level operations.

Between 2020 and 2024, MFRS responded to 632 public hazard incidents, many of which were directly or indirectly related to hazardous materials. These included 237 carbon monoxide (CO) presence calls, 71 natural gas leaks, 28 fuel spills, and 92 events involving downed or arcing power lines. The department also responded to a toxic chemical spill and multiple ruptured water or steam line incidents, each of which carried unique operational and safety considerations. While most incidents were minor in scale, they underscore the importance of maintaining a strong operational-level hazmat response capability, supported by regular training, risk monitoring, and coordination with external partners.

Although MFRS does not maintain a dedicated hazmat unit or provide technician-level service, it plays a critical role as the initial responder for hazardous materials incidents in Milton. Continued investment in training, equipment, and inter-agency coordination will ensure that MFRS remains capable of protecting residents, property, and the environment in alignment with its risk profile. The department's current service level reflects a balanced, responsible, and scalable approach appropriate to Milton's size, growth trajectory, and operational priorities.

Table 18: Public Hazard Incidents 2020-2024

Public Hazard	132	120	163	92	125	632	
CO incident, CO present	47	33	61	42	54	237	37.5%
Gas Leak - Miscellaneous	1	0	0	0	2	3	0.5%
Gas Leak - Natural Gas	15	17	19	11	9	71	11.2%
Gas Leak - Propane	2	3	1	1	0	7	1.1%
Gas Leak - Refrigeration	0	0	0	1	1	2	0.3%
Other Public Hazard	9	8	14	13	12	56	8.9%
Power Lines Down, Arcing	24	24	23	7	14	92	14.6%
Public Hazard call false alarm	10	6	6	1	3	26	4.1%
Public Hazard no action required	8	3	4	6	11	32	5.1%
Ruptured Water, Steam Pipe	8	17	25	5	10	65	10.3%
Spill- Gasoline or Fuel	6	7	7	3	5	28	4.4%
Spill - Miscellaneous	2	2	3	1	4	12	1.9%
Spill - Toxic Chemical	0	0	0	1	0	1	0.2%

3.6.5 Technical Rescue Services

Technical rescue operations often involve low frequency but high-risk events that require specialized knowledge, equipment, and training to ensure rescuer safety and incident success. These events may include motor vehicle extrications, confined space incidents, industrial entrapments, high-angle rope rescues, and water or ice rescues. Due to the complexity and infrequency of these incidents, fire departments must invest heavily in structured training programs, routine equipment maintenance, and a certification process to ensure operational readiness and responder safety. Maintaining technical rescue competencies requires a deliberate and sustained commitment, even when actual call volumes remain low.

Milton Fire & Rescue Services (MFRS) is responsible for a broad range of rescue operations within the municipality. Like many composite fire services, MFRS faces challenges associated with maintaining technical proficiency in low-frequency, high-risk disciplines. Currently, MFRS provides:

- **Awareness-level responses** for trench and Urban Search and Rescue (USAR) scenarios, and

- **Technician-level responses** in confined space, vehicle extrication, rope rescue, ice/water rescue, and machinery entrapments.

According to Standard Incident Reporting (SIR) data from the Ontario Office of the Fire Marshal, MFRS responded to 2,194 rescue-related calls between 2020 and 2024. Of these, 1,955 calls (89.1%) were vehicle collisions, and 76 calls (3.5%) involved vehicle extrications. Other notable incidents included 66 elevator related incidents, 10 low-angle rescues, 6 high angle rescues, and 6 water rescues. These statistics demonstrate that the majority of MFRS's rescue operations fall within the scope of its existing certifications and training. However, ongoing growth in Milton's industrial sector brings increasing risk for machinery entrapments and confined space incidents, scenarios that may exceed current capacity without further investment in specialized training.

MFRS must assess the evolving risk landscape and balance operational readiness with resource availability. Specialized rescue training typically requires a minimum of 40 hours of hands-on instruction, followed by formal certification and annual skills maintenance. As such, any future expansion of technical rescue services should be approached through a phased implementation strategy, prioritizing disciplines with the highest risk-to-frequency ratio. Consideration must also be given to firefighter workload, instructor availability, equipment costs, and the capacity of the organization to sustain long-term competency across multiple disciplines.

To support future service delivery goals, MFRS should continue to strengthen inter-agency coordination with local and regional partners capable of providing technician-level response for less frequent, high-consequence incidents. The department is well-positioned to meet the current technical rescue demands of the community; however, further enhancements may be warranted as the town's population and industrial footprint continue to expand. Clear operational guidelines, ongoing investment in technical rescue training, and alignment with NFPA standards will ensure that MFRS continues to deliver safe, efficient, and scalable technical rescue services into the future.

Table 19: 2020-2024 Rescue response incidents:

Call Type	2020	2021	2022	2023	2024	Total	Total %
Rescue	309	356	510	505	514	2194	
Animal Rescue	2	3	3	0	2	10	0.5%
Commercial Industrial Accident	0	0	0	0	4	4	0.2%
High Angle Rescue	0	1	3	2	0	6	0.3%
Home/Residential Accident	1	3	2	1	2	9	0.4%
Low Angle Rescue	3	2	4	0	1	10	0.5%
Other Rescue	0	1	6	6	5	18	0.8%
Persons Trapped in Elevator	11	13	12	13	17	66	3.0%
Rescue False Alarm	0	1	0	1	0	2	0.1%
Rescue No Action Required	5	11	10	3	2	31	1.4%
Vehicle Collision	269	312	452	461	461	1955	89.1%
Vehicle Extrication	16	8	18	16	18	76	3.5%
Water Ice Rescue	1	0	0	0	0	1	0.0%
Water Rescue	1	1	0	2	2	6	0.3%

3.6.6 Motor Vehicle Rescue

Motor vehicle collisions (MVCs) continue to be a significant incident type requiring a comprehensive and coordinated emergency response. These incidents can involve complex hazards to both victims and responders, including entrapment, fire, hazardous materials, and unstable vehicle conditions. Vehicle extrication is a specialized technical operation that requires extensive training, specialized equipment, and precise coordination with police and ambulance services to ensure safe and effective incident management. External factors such as weather conditions, traffic volume, and roadway design further influence the severity of these incidents and the ability of responders to manage the scene safely.

Modern vehicles introduce new risks that increase the complexity of MVC response. Firefighters must consider features such as multiple-stage airbags, high-voltage battery systems in electric and hybrid vehicles, fuel cells, and advanced structural reinforcements that can impede extrication efforts. Additionally, incidents involving commercial vehicles or transport trucks may include dangerous goods, increasing the risk to responders and requiring advanced hazard assessment, containment, and potential decontamination efforts. As such, all MFRS personnel receive training in accordance with NFPA 1001 and NFPA 1006 standards to safely and effectively manage MVC and extrication scenarios.

Over the five-year period from 2020 to 2024, MFRS responded to 1,955 vehicle collisions, accounting for 89.1% of all rescue-related calls. An additional 76 calls (3.5%) were classified as vehicle extrications, requiring specialized stabilization, and cutting tools. These incidents are categorized under the broader “Rescue” incident type, which collectively represented 2,194 total responses, or 19.54% of the department’s total call volume. High-speed regional and provincial roadways that run through and around the Town of Milton, including Highway 401 and key arterial corridors, create zones of elevated risk and require rapid response and resource deployment. MVCs on these roadways can present hazardous conditions for all responders due to traffic, visibility, and environmental conditions.

The MFRS deployment model includes dispatching fire pumpers, squads, tankers, and/or rescue units to vehicle collisions, depending on the nature of the call. These responses are highly dynamic and may require a full range of tactical interventions including scene safety management, fire suppression, patient care, vehicle stabilization, and mechanical extrication.

In many cases, firefighters must operate in high-stress, time-critical environments while maintaining safety for themselves, victims, and bystanders. Inter-agency coordination with Halton Regional Police Service, Halton Paramedic Services, and provincial highway authorities is essential to manage these scenes effectively and return traffic corridors to normal operation.

As the Town of Milton continues to grow in both population and transportation infrastructure, the volume and complexity of MVCs is expected to rise. MFRS’s continued investment in technical rescue training, fleet capabilities, and collaborative emergency planning with partner agencies is essential to ensuring public safety and maintaining operational readiness. These investments will support the department’s ability to mitigate the risks associated with vehicle collisions and provide timely, effective, and safe emergency response to all roadway incidents within the municipality.

3.6.7 Surface Ice and Water Rescue

Milton Fire & Rescue Services (MFRS) currently delivers surface water and ice rescue services at the technician level, as defined by the NFPA 1006 and 1670 standards. These technical rescue disciplines are high-risk and low frequency in nature, requiring rigorous training, proper equipment, and clearly defined operational procedures to ensure firefighter and public safety. The importance of maintaining high standards in these areas was underscored by the May 2017 Coroner's Inquest into the death of a firefighter during an ice rescue training exercise. The inquest recommended that all "ice/cold/swift water rescue services" training be reviewed and paused until the jury's recommendations were fully addressed. It also drew a critical distinction between surface water rescue and swift water rescue, with only the former being within the scope of MFRS's currently authorized service levels.

In response to Communiqué 2017-06 from the Ontario Office of the Fire Marshal and Emergency Management (OFMEM), municipalities were advised to reassess the delivery of specialized rescue services and confirm alignment with their respective Establishing and Regulating By-law. In line with this guidance, MFRS has formally identified surface water and ice rescue at the technician level in its Establishing and Regulating By-law. It is important to note that MFRS does not provide swift water rescue services, which involve significantly different environmental conditions and response requirements. The department's operational posture remains focused on shore-based, controlled interventions in line with its staffing, training, and risk profile.

As part of this service, MFRS maintains teams of firefighters on each platoon who are trained, certified, and equipped to conduct surface and ice rescue operations.

To ensure safety and consistency, all in-water and on-ice rescue operations are conducted as "shore-based" rescues, meaning firefighters are tethered to shore at all times using purpose-designed rescue lines. This procedure is aligned with OFM recommendations and serves to mitigate the risk to responders during both training and live incidents.

3.6.8 High/ Low Angle Rope Rescue

Milton Fire & Rescue Services (MFRS) currently provides high and low angle rope rescue services at the technician level, in alignment with the competencies and training requirements outlined in NFPA 1670 – Chapter 5: Rope Rescue Operations, and NFPA 1006 – Chapter 5: Rope Rescue Technician Level. This level of service ensures that MFRS is capable of responding to complex rope-based rescue scenarios, including incidents that involve terrain features such as cliffs, embankments, ravines, and other elevated or vertical hazards.

The Community Risk Assessment (CRA) identified several geographic features within the Town of Milton that contribute to rope rescue risk, particularly the Niagara Escarpment and a variety of conservation areas that attract high volumes of residents and visitors. These areas present varying degrees of risk due to recreational activities such as rock climbing, hiking, and boating.

The analysis of the 2020–2024 response data indicates that MFRS responded to 16 rope rescue-related incidents over the five-year period. Senior staff confirm that a large proportion of these calls occurred in escarpment terrain, validating the need for technician-level rope rescue capability.

To support continued delivery of this service, it is recommended that MFRS maintain its technician-level rope rescue capability and ensure that all personnel assigned to these functions are trained, evaluated, and certified in accordance with NFPA 1006 and 1670 standards. Rope rescue training should be conducted on a recurring basis, with documented skill evaluations and scenario-based practice to ensure operational readiness. As the community continues to expand into areas with increased vertical terrain and recreational use, this service remains essential to MFRS’s ability to protect life and safety during complex rescue operations.

3.6.9 Machine Rescue Operations

Milton Fire & Rescue Services (MFRS) currently maintains technician-level certification for machinery rescue operations, as defined under NFPA 1006 – Technical Rescuer Professional Qualifications and NFPA 1670 – Operations and Training for Technical Search and Rescue Incidents. Machinery rescue involves the disentanglement and extrication of persons who have become trapped in or under mechanical equipment. These incidents may involve industrial machinery, agricultural equipment, conveyor systems, powered tools, or other mechanical devices used in commercial, industrial, or residential settings.

Examples of typical machinery rescue incidents include victims trapped in conveyor belts, augers, press machines, manufacturing equipment, or heavy-duty cutting and compacting devices. While these incidents are low in frequency, they can result in severe trauma, life-threatening injuries, or fatalities. Time-sensitive intervention is often required to prevent further harm, necessitating advanced knowledge of mechanical systems, stabilization techniques, and the use of specialized extrication tools.

The skill sets required for machinery rescue closely overlap with those used in other technical disciplines such as vehicle extrication, which MFRS provides at a technician level. This overlap makes machinery rescue a practical and cost-effective component of the department's technical rescue portfolio. The training and tools used for patient disentanglement in vehicular settings can often be applied effectively to industrial entrapments, allowing MFRS to maintain operational readiness across multiple rescue scenarios without duplicating resources or increasing burden on staff.

As Milton continues to experience significant growth in its industrial and commercial sectors, including manufacturing, warehousing, and logistics facilities, the likelihood of machinery-related incidents may increase. These occupancies often house large-scale, complex machinery and processes that pose elevated risks for worker entrapment or injury. Maintaining technician-level capability ensures that MFRS is adequately prepared to respond to such emergencies in a safe and effective manner. Given the current industrial expansion and incident potential, sustaining the existing service level is both appropriate and proactive.

MFRS should continue to invest in machinery rescue training through annual skill refreshers, scenario-based exercises, and close coordination with local industries to understand the specific risks and machinery types present within the community. This forward-looking approach will help ensure MFRS remains aligned with industry standards and capable of meeting emerging response demands tied to Milton's evolving industrial landscape.

3.6.10 Confined Space and Trench Rescue

Under Ontario Regulation 632/05 – Confined Spaces, made under the Occupational Health and Safety Act, a confined space is defined as a fully or partially enclosed space not designed for continuous human occupancy and where atmospheric hazards may occur due to its design, contents, or associated work.

The regulation places specific obligations on employers, including the requirement to establish on-site rescue procedures when workers are exposed to confined space risks. Importantly, there is no provincial mandate for municipalities in Ontario to deliver confined space or trench rescue services through their fire departments. However, fire services like MFRS are often the first to arrive at such emergencies and must be prepared to assess, secure, and stabilize these complex and hazardous scenes.

Although confined space and trench rescues are low-frequency events, they are extremely high-risk due to factors such as limited access, hazardous atmospheres, the potential for secondary collapse, and specialized equipment needs.

With the ongoing expansion of Milton's industrial and construction sectors, including residential subdivisions, commercial facilities, and public infrastructure, the risk of encountering these scenarios is increasing. Trench rescues, which involve collapsed excavations or ditches, often overlap in hazard profile with confined spaces, particularly when atmospheric risks or structural instability are involved.

Currently, MFRS maintains technician-level capabilities for confined space rescue. This enables trained personnel to safely assess hazards, secure the scene, and conduct limited non-entry rescue operations using specialized retrieval systems and atmospheric monitoring equipment. Operations-level responders are trained to work in support of technician-level teams and can manage perimeter control, ventilation, communication, and standby duties. These capabilities align with the requirements outlined in NFPA 1006 – Technical Rescuer Professional Qualifications and NFPA 1670 – Standard on Operations and Training for Technical Search and Rescue Incidents at the operations tier.

In contrast, MFRS maintains awareness-level training for trench rescue. This ensures that all frontline staff are able to recognize trench collapse hazards, secure the scene, and initiate appropriate notifications while preventing unauthorized entry. This level of service is consistent with industry best practices for departments that do not regularly encounter trench incidents or lack the volume to justify advanced certification and equipment investment. Awareness-level training focuses on hazard identification, isolation, initial scene management, and support of incoming technical rescue teams when necessary.

To ensure a scalable and sustainable response model, MFRS should continue to maintain partnerships with Mississauga Fire & Emergency Services to access technician-level trench rescue where needed.

This formalized service contract will continue to ensure technician support is available for high-risk trench incidents without overextending MFRS's internal resources. This dual-tiered approach, operation-level for confined space, awareness-level for trench, ensures that MFRS remains a capable first responder agency while appropriately managing training burdens, equipment costs, and operational risk.

3.6.11 Structural Collapse Response

In the event of a structural collapse MFRS will most likely be the first emergency service on scene. As such, the department must be prepared to secure the site, assess hazards, initiate scene control, and implement appropriate life-safety measures while awaiting specialized resources. Structural collapses may result from explosions, natural disasters, building failures, or construction-related incidents. While not considered high-frequency events, they are high-impact and can require extensive coordination and technical capabilities to manage effectively.

Over the past decade, several Ontario municipalities including Mississauga, Caledon, London, and Hamilton, have experienced structural collapse incidents that required extended operations and specialized resources. In these cases, support was provided through the Ontario Heavy Urban Search and Rescue (HUSAR) program, operated by the Office of the Fire Marshal (OFM). The increase in complex urban infrastructure and vertical growth in Ontario communities has prompted fire services to revisit their response capabilities for structural collapse scenarios.

Given the low probability but high consequence nature of these events, it is recommended that MFRS maintain an awareness-level capability for structural collapse response, in accordance with NFPA 1670 – Chapter 6: Structural Collapse Rescue Operations, and that all suppression personnel be trained to the awareness level as defined in NFPA 1006 – Chapter 6: Structural Collapse Rescue. This training equips responders to identify collapse risks, secure perimeters, manage hazards, support evacuation and initial triage, and recognize when higher-level response resources are required. Awareness-level training ensures a safe and effective initial response while allowing for rapid transition to more advanced operations when necessary.

In alignment with Fire Marshal's Communiqué 2016-05, MFRS should also pursue fire service agreements or memorandums of understanding with neighbouring departments or regional partners that offer operations- or technician-level collapse response.

Additionally, MFRS should maintain formal awareness of and access to the provincial HUSAR program coordinated through the Provincial Emergency Operations Centre (PEOC). When necessary, access to HUSAR resources can be coordinated through the local fire coordinator under the Mutual Aid Plan, ensuring rapid deployment of technical rescue support in the event of a large-scale structural failure.

As Milton continues to grow in population and density, including the development of multi-storey residential and commercial structures, the likelihood and potential complexity of structural collapse incidents may increase. MFRS's current approach, grounded in awareness-level readiness and provincial coordination, provides a practical, scalable, and fiscally responsible model for ensuring community protection from this type of high-risk emergency. Ongoing training, scenario-based exercises, and inter-agency planning will support operational readiness and alignment with provincial best practices.

Observation #13: MFRS currently maintains awareness-level capabilities for several technical rescue disciplines, including trench rescue and urban search and rescue response. However, technician-level training, equipment, and staffing requirements for these specialties are resource-intensive and require ongoing investment to maintain operational readiness and regulatory compliance. Given the frequency and complexity of such incidents in Milton's current risk profile, the demand does not presently justify the standalone development of full technician-level teams within MFRS. As the Town's industrial base, urban density, and infrastructure expand, the potential for technical rescue incidents will increase, necessitating access to more advanced capabilities.

Recommendation #13: Maintain formalized service agreements with third-party providers or neighbouring fire departments that possess technician-level capabilities in identified technical rescue disciplines.

Suggested completion: 12-24 months

Cost: Will vary dependent on the agreement and discipline

Strategic Objective: Operations

Rationale: Formalizing service agreements with neighbouring fire departments or third-party providers allows MFRS to access specialized technical rescue capabilities such as confined space entry, rope rescue, trench rescue, and hazardous materials mitigation, without bearing the full cost and operational burden of developing these competencies in-house. Maintaining technician-level proficiency requires significant investments in equipment, ongoing certification, scenario-based training, and 24/7 staff availability. By partnering with regional providers that already possess these capabilities, the Town can ensure timely, expert-level response to low-frequency but high-risk incidents while maintaining cost efficiency and operational focus on core services.

In addition, these formalized agreements improve clarity and coordination during joint responses by establishing roles, responsibilities, cost recovery expectations, and communications protocols in advance of an emergency. This proactive approach strengthens interoperability and eliminates ambiguity during critical incidents, ensuring a more seamless and effective multi-agency deployment. It also positions MFRS to participate in reciprocal support arrangements, enhancing regional resilience and resource optimization. As Milton continues to grow, formal partnerships will help close existing service gaps while supporting the Town's commitment to providing safe, reliable, and scalable emergency services across all risk profiles.

3.6.12 Pre-Emergency Planning

Pre-fire planning is a cornerstone of operational readiness: it improves size-up, speeds decision-making, and reduces risk to civilians and firefighters by giving crews building-specific intelligence before they arrive. MFRS guideline frames pre-incident information ("Tactical Surveys") as a defined process to gather key data that support effective incident management and protection of life and property. The guideline's stated purpose and introduction emphasize preparedness and familiarization so crews can operate strategically and tactically when it matters most.

MFRS currently applies this program to high- and low-rise residential buildings, with a clear scope and common definitions to keep expectations consistent. Roles and responsibilities are assigned. The Division Chief of Operations oversees the program, Company Officers review surveys with crews, and all firefighting personnel are expected to understand the information for buildings in their first-in areas. The Training Division provides instruction on how to complete surveys, ensuring crews are prepared before or during the first site visit.

A defined process guides assignment, submission, and quality control: surveys are assigned to Company Officers by first-response area, submitted digitally for review, and resubmitted if changes are required. The guideline also connects field observations to prevention by directing officers to report Fire Code violations and seek support from Prevention/Training when systems are unfamiliar, reinforcing a feedback loop between operations and code compliance.

For access and currency, approved surveys are stored on the Town network (“Tactical Survey Final” folder) and a hardcopy is kept in the cab of every front-line apparatus. Annual updates, including site visits by first-in crews, are mandated. Company Officers must confirm updates and forward revised surveys for approval, ensuring pre-plans remain accurate and available at the point of use.

MFRS has begun incorporating vulnerable occupancies, large buildings, and structures with high fire loads into its pre-fire planning program. Moving forward, the program should be expanded to include any building identified as a risk within the Community Risk Assessment (CRA). Pre-plans should be digitized for mobile access and integrated with CAD/GIS systems, to enhance accessibility and situational awareness. Industry best practices recommend standardized data fields such as standpipes, key boxes, electric vehicle charging stations, and photovoltaic arrays, along with detailed tactical considerations including attack stair locations, refuge floors, and smoke control systems.

Additional improvements could include establishing triggers for post-incident plan updates and implementing a KPI dashboard to track program performance (e.g., percentage of first-due high-risk buildings with current surveys, median survey age). Regular joint reviews involving Fire Prevention, Training, and Dispatch would strengthen coordination, ensuring pre-fire plans remain accurate, comprehensive, and adaptable to Milton’s evolving-built environment.

Observation #14: Milton Fire & Rescue Services (MFRS) has made progress in strengthening its pre-fire planning program by incorporating vulnerable occupancies, large buildings, and structures with high fire loads. This expansion has enhanced operational preparedness for high-risk incidents. However, the current scope does not yet include all buildings identified as risks through the Community Risk Assessment (CRA), potentially leaving gaps in tactical readiness for certain occupancies. Pre-plans remain in a mixed format, limiting real-time accessibility and integration with operational systems such as CAD and GIS. In addition, the existing process does not yet fully standardize building data fields, tactical considerations, or establish automated triggers for updates following significant incidents or changes in building configuration.

Recommendation #14a: Expand the pre-fire planning program to include all buildings identified as risks within the Community Risk Assessment (CRA), ensuring complete coverage of high-priority and high-hazard occupancies.

Recommendation #14b: Digitize all pre-plans and integrate them into CAD/GIS systems to allow mobile access for operational staff, with standardized data fields covering standpipes, key boxes, electric vehicle charging stations, photovoltaic arrays, and other critical building information, along with detailed tactical considerations such as attack stair locations, refuge floors, and smoke control systems.

Recommendation #14c: Establish defined triggers for post-incident plan updates and other significant changes, and implement a KPI dashboard to track program performance, including percentage of first-due high-risk buildings with current surveys and median survey age. Conduct regular joint reviews between Fire Prevention, Training, and Dispatch divisions to ensure the plans remain accurate and operationally relevant.

Suggested completion: 12-60 months

Cost: Cost to digitize if external

Strategic Objective: Operations

Rationale: Expanding and modernizing MFRS's pre-fire planning program will close identified risk gaps, improve situational awareness, and enhance operational decision-making. Including all CRA-identified risks ensures that firefighters have the information they need for a broad range of incident types, including those involving emerging hazards. Digitizing pre-plans and integrating them with CAD/GIS systems will improve access during emergencies, reduce time spent on scene gathering basic building information, and support a coordinated, efficient response. Standardizing data fields and tactical considerations will ensure consistency across all plans, improving interoperability and clarity for crews regardless of assignment. Post-incident update triggers will keep plans current, while a KPI dashboard will provide a measurable way to monitor program performance and prioritize updates. Regular cross-divisional reviews will ensure the program evolves alongside Milton's growing and changing built environment, sustaining its value as a critical operational tool.

3.6.13 Mutual Aid and Other Service Agreements

Fire departments across Ontario, including Milton Fire & Rescue Services (MFRS), recognize that large-scale emergencies can quickly exceed the capabilities of any single municipality, particularly those with limited staffing, apparatus, or specialized resources. While MFRS is equipped to manage a wide range of emergency incidents, certain low-frequency but high-consequence events, such as multiple-alarm structure fires, hazardous materials incidents, or complex rescues, necessitate access to additional support. To address this need, mutual aid and automatic aid agreements play a critical role in expanding emergency response capacity and ensuring continuity of operations during significant or concurrent incidents.

Mutual aid agreements are formal arrangements between fire departments to provide assistance across jurisdictional boundaries when requested. These agreements support collaborative response efforts when local resources are insufficient to manage an emergency independently. Assistance under mutual aid may include personnel, fire suppression equipment, and specialized services such as technical rescue or hazardous materials response. Requests for aid are made on an as-needed basis, and responding departments will provide support if they have the available capacity. Unlike automatic aid, mutual aid is not pre-assigned or guaranteed and depends on the discretion and availability of the responding agency.

Automatic aid agreements, by contrast, provide for a predetermined response arrangement whereby a neighboring fire department is automatically dispatched to certain incidents within the Town of Milton. This is particularly beneficial in areas where a bordering municipality can provide a faster or more effective response based on proximity or specialized capabilities. These agreements enhance the speed and effectiveness of the initial response, improve coverage in remote or high-risk areas, and support critical intervention during time-sensitive emergencies.

In Ontario, the Office of the Fire Marshal (OFM) administers a provincial Mutual Aid Plan (MAP) to ensure consistency and coordination among municipal fire services.

Each geographic area in the province is assigned a fire coordinator responsible for organizing and maintaining the local MAP, which is designed to support standardized procedures for inter-agency cooperation during emergencies. The plan promotes an efficient and scalable approach to resource deployment, with the goal of minimizing loss of life, property damage, and environmental impact through coordinated efforts among fire departments and other emergency partners.

The Town of Milton is an active participant in the Halton Region Mutual Aid Plan, which facilitates collaboration among neighboring fire departments within the region. In addition, MFRS maintains fire protection agreements with Mississauga Fire and Emergency Services and Halton Hills Fire Department to support emergency coverage along Milton's eastern and northeastern boundaries. In the event that an incident escalates beyond local and regional capacity, MFRS may request additional support through the Provincial Emergency Operations Centre (PEOC), enabling access to specialized provincial resources coordinated by OFMEM.

These agreements ensure that MFRS can provide timely, effective service to the community during complex or large-scale events while maintaining operational continuity. As Milton continues to grow in population, infrastructure, and risk complexity, these mutual and automatic aid agreements will remain a vital component of the Town's emergency response system. Ongoing collaboration, joint training, and regular updates to service agreements will ensure that the community is well-supported during all levels of emergency response.

3.7 Training & Professional Development

Goal #7: Deliver a progressive and sustainable training program aligned with the services authorized in its Establishing and Regulating By-law. The program will integrate current firefighting practices, safety standards, and emerging technologies to ensure personnel are equipped with the competencies needed to respond safely and effectively to evolving risks and service demands.

3.7.1 Training Overview

Training and competency development are essential and ongoing activities for all contemporary fire departments. A prepared and competent workforce reduces risk and safely optimizes service delivery. An effective workforce training program aligns the growth and development of personnel to the organization's mission and goals.

The MFRS Training Section consists of a Division Chief of Training and three (3) full-time Training Officers. These four (4) personnel typically work a forty (40) hour work week; however, the Training Division operates on a flexible scheduling model to support the diverse training needs of both full-time and part-time firefighters. Each Training Officer works either five 8-hour shifts or four 10-hour shifts per week, and the team collectively adjusts its schedule to accommodate evening and weekend training sessions for the part-time firefighter cohort. To further support training delivery, MFRS also utilizes adjunct instructors, primarily Lieutenants from the suppression division, who assist with delivering core competency and specialized training programs. This flexible and integrated approach ensures consistent training across all ranks and staffing models within the department.

The Training Section is responsible for the following:

- Develop and coordinate the delivery of all training programs to MFRS staff.
- Manage the overall training environment.
- Assist in assessing the performance of personnel by setting, administering, and marking examinations, attending emergency incidents, evaluating practical skills, and providing feedback.
- Monitor and evaluate ongoing training programs.
- Research and evaluate policies, procedures, techniques, and equipment.
- Maintain training records and prepare comprehensive reports.
- Maintain training manuals and reference materials.
- Assist in the promotional processes.
- Maintain equipment as assigned and assist with the research, design and acquisition of new apparatus and equipment.

The closing of the brick-and-mortar Ontario Fire College has put a greater focus on regional training, resulting in formal and informal regional partnerships being developed throughout Ontario under the purview of the Office of the Fire Marshal. MFRS training utilizes in-house training and regional training, as necessary.

The Ontario Firefighter Certification regulation filed April 14, 2022, and enacted on July 1, 2022, introduces mandatory minimum certification standards for firefighters that align with fire protection services being provided. This regulation will help ensure firefighters have consistent training according to the level of service set by a municipality supporting firefighter and public safety.

Training and education program activities are identified by assessing the Knowledge, Skills, and Abilities (KSAs) needed for the firefighters to perform their duties as outlined in the department's SOGs and procedures. When firefighters are competently trained and possess the KSAs for the services they are expected to provide, they reduce risk and increase their safety and the safety of the public they serve. All training programs should be measured against and tailored to the core services and identified risk assessments for the community.

Meeting the training needs of a fire service is a very important and demanding portfolio. The scheduling of instructors, facilities and participants is a daunting task to ensure safe and consistent training while not negatively impacting MFRS operational capacity.

MFRS conducts scheduled and ad hoc training sessions for the delivery of core competency and related training consistent with the requirements established by the OFM certification and curriculum. MFRS typically trains two (2) times per week and the odd Saturday. MFRS training syllabus utilizes the International Fire Service Training Association (IFSTA) Resource One Learning Management System to provide direction and resources for training. MFRS training is provided through various methods, including:

- Theoretical classroom and/or online modules.
- Simulation lab.
- Practical training while on-duty and/or off-duty.
- A combination of methods for proficiency and/or certification.

MFRS has identified areas to conduct training within each station. There is a classroom including a simulation lab and practical training area at fire station 1 to conduct both classroom and practical evolutions for core suppression skills, technical rescue, pump operations, and auto extrication. MFRS has been able to use some vacant land within the community that they have been able to utilize for training and practice for ice, water, and rope rescue as well as pump testing. This allows the opportunity to ensure that MFRS staff are conducting annual maintenance training on core competencies and other disciplines for the level of service being delivered.

Live fire training (recruit and current staff) requires the staff to travel outside the community, presently utilizing the Garry W. Morden Centre Class A burn tower in Mississauga.

It was identified through the interviews and observations that the staff has confidence in the Training Division and the training that is being delivered, although capacity of both staff resources and training facilities is a concern as the demands for required training will undoubtedly increase for both existing and new hires.

3.7.2 Industry Recommended Qualifications

NFPA certification standards represent industry best practices. Position profiles and associated KSAs should prepare staff to competently provide the services necessary to address the risks in their community.

Many of the NFPA standards have been incorporated as mandatory in O. Reg 343/22 Firefighter Certification, enforced under the Fire Protection and Prevention Act, 1997. The regulation requires every municipality and every fire department to ensure that its firefighters, including all staff, perform the duties defined in the regulation.

Further, organizational size and structure will often change the breadth of tasks and competencies required by specific positions. For example, large career fire departments tend to have a higher degree of specialization for senior positions and less need for senior officers to be directly involved in fire suppression or rescue operations. In contrast, smaller volunteer POC or paid-per-call volunteer department senior officers will lead or be directly involved in fire suppression and rescue operations.

The following Table 20 lists NFPA standards offered as a general guideline for NFPA training standards aligned with most fire department positions.

Table 20: NFPA Professional qualification standards by position

<u>Fire Chief Deputy Chiefs NFPA 472 Dangerous Goods Operations</u> - NFPA 1001 Firefighter (Level 2) - NFPA 1002 Pump Operator - NFPA 1021 Fire Officer (Level 2) - NFPA 1041 Instructor (Level 1) - NFPA 1403 Standard on Live Fire Training Evolutions - NFPA 1521 Incident Safety Officer <u>Captains and Lieutenants</u> - NFPA 472 Dangerous Goods Operations* - NFPA 1001 Firefighter (Level 2) * - NFPA 1002 Pump Operator* - NFPA 1021 Fire Officer (Level 1) * - NFPA 1041 Instructor (Level 1) - NFPA 1403 Standard on Live Fire Training Evolutions - NFPA 1521 Incident Safety Officer* <u>Safety Officer</u> NFPA 1521 Incident Safety Officer* <u>Firefighter</u> - NFPA 472 Dangerous Goods Operations* - NFPA 1001 Firefighter (Level 1) * - NFPA 1002 Driver/Pump Operator* - NFPA 1006 Vehicle extrication Level 1*	<u>Pump Operator</u> - NFPA 472 Dangerous Goods Operations - NFPA 1001 Firefighter (Level 1) - NFPA 1002 Driver/Pump Operator* - NFPA 1002 Aerial Operator - NFPA 1006 Vehicle extrication Level 1 <u>Training Officer</u> - NFPA 1041 Instructor (Level 1) * - All Qualifications required to instruct firefighters and recruits* - NFPA 1403 Standard on Live Fire Training Evolutions <u>Fire Inspector/Fire Investigator</u> - <u>NFPA 1031 Standard for Professional Qualifications for Fire Inspector and Plans Examiner*</u> - <u>NFPA 1033 Standard for Professional Qualifications for Fire Investigator*</u> - <u>NFPA 1035 Standard for Professional Qualifications for Public Fire and Life Safety Educator*</u> <i>* Indicates mandatory qualifications under O. Reg 343/22</i>
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The role of the Office of Fire Marshal (OFM) is to provide leadership and expertise on fire safety and promote changes to minimize the impact of fire and other public safety hazards on people, property, and the environment in Ontario. The OFM provides guidance and leadership to municipal fire departments in required training, including the certification regulation to ensure mandatory minimum certification standards for firefighters that align with fire protection services being performed. The summary of the regulation required qualifications are found in 4.11.9Appendix E:, which describes the minimum certification standards for the various fire protection services and the compliance timeline.

A fire departments ability to effectively deliver the necessary training to both existing firefighters and new fire recruits relies on an effective system of planning, preparation, and delivery. MFRS maintains a calendar of training that reaches out 4-5 years for core competency and certification training needs, evaluated, and adjusted each calendar year as needed. This process is completed in coordination with administration and suppression staff through identification of needs and identified gaps in training requirements.

The current training staff works a Monday – Thursday or Friday schedule during normal day shift hours. Opportunities to facilitate Training Officer led training outside those hours is limited. The availability of training officers to provide training to suppression staff is significantly impeded during times of recruit training.

Observation #15: Technical rescue and other specialized operations require dedicated training officers with the appropriate certifications, operational experience, and subject-matter expertise to deliver effective training in each discipline. MFRS provides emergency response across several technical rescue disciplines that are high-risk but low frequency, making it essential that training be delivered by personnel with advanced competency and credibility in each area. At the same time, training officers must balance these specialized needs with the broader training obligations of the service, including recruit development, officer progression, apparatus and driver operations, and maintenance of core competencies. To meet this demand, MFRS may need to designate lead instructors for specific disciplines, drawing from full-time training staff, qualified suppression personnel, or external resources. Additionally, a core of supplemental instructors will be required to support practical training evolutions and ensure realistic scenario-based training.

MFRS currently develops an annual training calendar to forecast training requirements for the year ahead and into the foreseeable future. Maintaining a critical focus on the department's capacity to meet these requirements, including resource allocation, instructional hours, and delivery methods, is essential to ensuring effective training delivery. Consideration must also be given to the standard Monday–Friday work schedule of training officers, and the additional instructional hours required outside of normal shifts to support on-shift training and technical disciplines. Without adjustments to training officer resources and instructional capacity, the department risks falling short of meeting both its core and specialized training objectives as operational demands continue to grow.

Recommendation #15: Complete a thorough analysis of existing training instructor capacity, including course development, face-to face training, remote training, practical and theory assessments and proctoring against the demand for training as outlines in the approved annual training calendar. Additional training officer capacity, whether full-time or part-time may be required to meet the increasing training demands for MFRS.

Suggested completion: 36-60 months

Cost: Wage (2024) per training officer is \$120,712 plus benefits.

Strategic Objective: Training and Professional Development

Rationale: MFRS is simultaneously onboarding larger cohorts for Stations 6 and 7, maintaining a composite workforce with significant numbers under five years' experience, and sustaining several high-risk/low-frequency technical rescue disciplines, conditions that materially elevate the quantity, complexity, and cadence of training. A structured analysis that compares available instructor capacity (full-time training officers plus qualified on-shift instructors) against the approved annual training calendar is therefore essential to prevent training from becoming a bottleneck. This review should account for the full workload of course design and updating, lesson planning, e-learning development, face-to-face delivery, remote facilitation, live-fire and practical evolutions, equipment/prop logistics, facility booking, theory and practical assessments, proctoring, documentation and signoffs, and after-action improvements, across both weekday and off-shift hours. By quantifying true instructional hours required per curriculum and discipline, instructor-to-learner ratios, and the throughput needed for mandatory certifications, probationary progression, officer development, apparatus/driver training, and technical rescue proficiency, the department can identify gaps and risks to safety, compliance, and operational readiness. The findings will inform a right-sized model, e.g., designating discipline lead instructors, expanding the instructor cadre, and, where warranted, adding full-time or part-time training officer capacity, to ensure consistent, standardized delivery across all platoons and sustain readiness as service demands grow.

Observation #16: Milton Fire & Rescue Services currently relies on their fire training facility located at station 1 for the majority of core competency training requirements, supplemented by utilizing a vacant parcel of land within the community and limited training resources in each of the individual fire stations. These facilities lack any live fire capabilities, relying instead on external training grounds such as those in Mississauga. Access to these facilities is limited, often constrained by scheduling, cost, and availability, which restricts the department's ability to deliver consistent live fire training for both new recruits and existing staff. As Milton continues to grow and add new stations and personnel, the current fire training area at Station 1 reliance on third-party facilities will become increasingly unsustainable, particularly given the increasing demands for high-risk, low-frequency scenario training, mandatory certification maintenance, and NFPA-aligned skills development.

The absence of a comprehensive local live fire training facility also impacts training flexibility and operational readiness. Firefighters must travel off-site to complete this critical training component, which disrupts daily staffing, adds logistical complexity, and limits the department's ability to conduct spontaneous or shift-based practical exercises. With an expanding department and growing urban complexity, a locally available comprehensive training centre that includes a live fire component would offer significant operational, logistical, and financial benefits.

Live fire training opportunities have evolved from historic utilization of local buildings that were designated for destruction and given the local fire department to light them on fire and practice their fire suppression activities. This practice had proven extremely dangerous to the firefighters as it lacked controls to otherwise unpredictable fire behaviour. Thankfully, this practice is not utilized any longer and transitioned to burn towers that are either fueled by class A or Class B burn materials.

Class A burn buildings typically constructed with concrete or steel are fueled by ordinary combustibles like wood, straw, and normal furniture found in homes. Class A burn towers, while providing firefighters the ability to practice live fire scenarios in a controlled environment, have downfalls such as the ability to conduct limited burn evolutions, the requirement to have an inventory of class A burn materials on site, and most importantly the need to expose firefighters to the dangers of smoke particulates that have proven to be significant health concerns to these exposures.

Modern Fire burn facilities have increasingly moved to Class B live fire systems that utilize propane or natural gas that provide a cleaner burning, less toxic, and efficient training environment that can simulate all phases and environments of a structure fire including flashover in a controlled environment. Class B burn facilities allow for considerable flexibility and increased practice on specific live fire scenarios.

Recommendation #16: Pursue the establishment of a municipally supported fire training facility with Class B live fire capabilities, either independently or through partnerships with neighbouring municipalities, educational institutions, or third-party partnerships.

Suggested completion: Beyond 72 months identified in the FMP

Cost: Estimated \$13 million depending on size and scope of project.

Strategic Objective: Training and Professional Development

***Rationale:** A municipally supported fire training facility with a live fire training component would provide Milton with a long-term, scalable solution to meet its training needs, ensuring that all staff have timely access to live fire scenarios and skill development opportunities. Such a facility would support firefighter safety, improve compliance with mandatory training standards, and enhance the department's overall operational effectiveness. In-house training infrastructure would also allow for greater control over curriculum delivery, increased training frequency, and stronger alignment with Milton-specific risks, such as high-rise, industrial, and residential fire scenarios.*

Pursuing this initiative in collaboration with neighbouring municipalities, post-secondary institutions, or private sector partners could help reduce capital and operating costs while maximizing regional training opportunities. A shared or multi-purpose facility could also generate additional revenue streams and strengthen inter-agency coordination. As Milton continues its transformation into a larger urban centre, investing in a local live fire training facility is a proactive step toward ensuring long-term public safety and professional excellence within the fire service.

3.8 Emergency Communications (Dispatch)

Goal #8: Maintain and enhance a technologically advanced communications system that supports the operational needs of a growing community. By adopting industry-leading practices, scalable technologies, and robust dispatch protocols, the Service will ensure timely, accurate, and resilient emergency communications that enhance firefighter safety and improve overall service delivery.

The Milton Fire & Rescue Services (MFRS) Communications Centre is housed at Fire Headquarters/Station 3 and forms a vital part of the department's emergency response infrastructure. It is responsible for fire dispatch, emergency call-taking, radio communications, and after-hours call management for other municipal departments. Oversight is provided by the Division Chief of Communications, who reports to the Deputy Fire Chief of Staff. Responsibilities include managing and maintaining the department's radio infrastructure, dispatch systems, pagers, and supporting communication technologies.

Under the Town of Milton's Establishing and Regulating By-law, MFRS is authorized to provide fire dispatching and after-hours municipal call-taking services. These responsibilities encompass both emergency and non-emergency matters, including public inquiries and municipal service complaints.

3.8.1 Communications Centre Staffing

The Communications Centre is staffed by eight full-time and six part-time Communications Technicians, with a minimum of one Technician on duty at all times. MFRS aims to meet NFPA 1225 (formerly 1221) staffing best practices, which recommend two communicators per shift to manage concurrent calls, breaks, and complex events. The department has taken steps toward compliance, with two Technicians now staffed per shift during peak times and part-time personnel filling gaps during leave coverage.

Supervision is provided during weekday business hours by the Division Chief of Communications. However, no supervisor is formally assigned for after-hours coverage. A Standard Operating Policy should be developed to outline escalation procedures and supervisory support during evenings, weekends, or high-risk scenarios, ensuring operational continuity and compliance with occupational health and safety regulations.

3.8.2 Performance Benchmarks

In alignment with NFPA 1225 and NFPA 1710, MFRS has adopted a performance benchmark of 64 seconds or less, 90% of the time, for emergency alarm processing. Historical data from 2020 to 2024 indicates notable improvements, with the 90th percentile alarm handling time decreasing from 176 seconds to 131 seconds. These improvements support efforts to reduce total response times. Additional analysis is provided in Section 4.5.1: Alarm Handling.

3.8.3 Training and Certification

Communications Technicians at MFRS perform both emergency call-taking and dispatching duties. Staff are trained and certified to NFPA 1061 (Standard for Public Safety Telecommunications Personnel) at Communicator Levels I and II. Training is delivered in-house and through online programs provided by the Association of Public-Safety Communications Officials (APCO). In accordance with Ontario Regulation 344/22 under the Fire Protection and Prevention Act, all fire communications staff must achieve NFPA 1061 certification. MFRS is actively working with the Office of the Fire Marshal (OFM) to meet this requirement.

3.8.4 Policies, Procedures, and Operations

Operational knowledge in the Communications Centre has traditionally relied on informal training and mentorship. MFRS must prioritize the development and implementation of formal Standard Operating Guidelines (SOGs) to support consistency and operational excellence. These should address all key functions, including radio communications, emergency call-handling, dispatch workflows, and escalation procedures, and be integrated into the Communications Technician training program.

3.8.5 Communications Infrastructure

MFRS operates on the Halton Region APCO Project 25-compliant digital radio network, utilizing Motorola MCC7500 consoles, Zetron paging encoders, and NICE recording software to log radio and phone traffic. The department's CAD system, integrated with the FDM Records Management System, is nearing end-of-life and lacks functionality such as automated station notifications. Sentinel FM provides AVL capabilities, and GETAC tablets in front-line apparatus are not CAD-linked. To enable integration with Ontario's simultaneous notification initiative, MFRS must prioritize the replacement of the CAD system within the next two years.

3.8.6 Next Generation 911 (NG-911)

The Canadian Radio-television and Telecommunications Commission (CRTC) has mandated the transition to NG-911 for all Public Safety Answering Points (PSAPs), including secondary PSAPs like MFRS. NG-911 introduces advanced communication capabilities, such as video, photo, and text transmission, along with real-time medical data sharing, which enhance situational awareness and operational response. MFRS must continue coordinating with Halton Regional Police (the primary PSAP) and technology vendors to align implementation efforts. The system is anticipated to be operational by November 2025.

3.8.7 Feasibility for the Expansion of Milton Fire & Rescue Services Communications Centre

The feasibility review evaluates the potential for Milton Fire & Rescue Services (MFRS) to expand its Communications Centre operations and provide fire dispatch services to other municipalities. The review assesses the Centre's existing infrastructure, staffing, and systems; identifies gaps; and outlines options for expansion including virtual, shared, or purpose-built models. It also considers financial implications, legal and governance frameworks, and operational risks. The goal is to establish whether expansion is viable, financially responsible, and aligned with the Town's long-term strategic vision for public safety modernization and regional collaboration.

3.8.7.1 Current State and Operational Context

MFRS currently operates its Communications Centre out of Station 3, with responsibility for fire call-taking, dispatching, and after-hours emergency municipal calls. The Centre handles approximately 2,800 calls annually and is staffed 24/7 by two Communications Technicians per shift (late 2025). Technicians also coordinate with Halton Region Police, CACC, Halton Region Paramedics, and utilities.

The Town has identified an opportunity to consider offering fire dispatch services to external fire departments. The intent is to leverage MFRS's capabilities and offset fixed costs through cost recovery models. However, infrastructure constraints, including the current footprint of the existing communications centre, staffing levels, and outdated CAD systems must be addressed before expansion is feasible.

3.8.7.2 Objectives of the Feasibility review

The key objectives of this review are:

- To determine if the Communications Centre has the capacity to expand to a multi-jurisdictional model.
- To identify infrastructure, staffing, and technological limitations that would impede expansion.
- To develop financial models and legal frameworks for cost recovery and service agreements.
- To recommend whether, how, and under what conditions MFRS should pursue expansion.

3.8.7.3 Physical Capacity

The current Communications Centre has served MFRS effectively to date; however, its physical capacity is approaching its limit. While a third dispatch workstation has been strategically positioned within the Division Chief of Communications' office to provide flexibility during periods of increased call volume, using this station for frontline dispatch operations reduces the Division Chief's ability to offer real-time supervision and strategic oversight. Although the existing facility at Station 3 is well-utilized, further expansion would require extensive reconfiguration and may not be practical within the current footprint. These space limitations present an opportunity to proactively plan for a purpose-built Communications Centre that will accommodate future growth, support evolving technology requirements, and enhance operational resilience.

3.8.7.4 CAD and Communications Technology

The Centre operates a legacy CAD platform that lacks interoperability for multi-agency dispatch, has limited automation, and is not fully NG-911 compliant. Apparatus tablets (GETAC) are not fully CAD-integrated, and radio systems require modernization to support simultaneous multi-department paging.

3.8.7.5 Staffing and Supervision

The Communications Centre is currently staffed by a dedicated team of eight full-time and six part-time Communications Technicians who manage emergency call handling and dispatch functions. This staffing model has supported service delivery effectively under current call volumes and operational requirements. At present, supervisory support is provided through the Division Chief of Communications as needed.

Looking ahead, as Milton's population continues to grow and expansion to other fire services increase, there may be a need to reassess staffing requirements to maintain response performance and dispatch resilience. Across the industry, planning assumptions typically recommend one dispatcher per 2,000–3,000 calls annually, a ratio that provides a general benchmark for future planning. Should expansion occur, whether through increased call volume, broader dispatch responsibilities, or the addition of a backup or purpose-built centre, the potential need for 2–4 additional full-time equivalents (FTEs), as well as a formal supervisory role, may emerge. These additions would support quality assurance, staff development, and operational oversight while ensuring the Centre continues to meet the Town's evolving public safety needs.

3.8.7.6 Future Demand and Workload Projections

With a current call volume of approximately 2,800 fire-related incidents annually, MFRS Communications Centre is presently operating well within its capacity. Industry planning assumptions suggests that one dispatcher can effectively manage 2,000 to 3,000 calls per year, depending on the complexity and duration of incidents. With two dispatchers on duty during peak shifts, MFRS is positioned to absorb moderate call volume increases without compromising service quality.

Based on current staffing and system capabilities, MFRS could feasibly expand its dispatch operations to support 1–2 small neighbouring departments, provided the combined total call volume remains within the range of 4,000 to 6,000 calls annually. This range would maintain alignment with best practice staffing ratios and allow the existing dispatch to continue delivering timely and effective communications support.

However, any expansion beyond this threshold would require a reassessment of staffing models and operational workflows. To ensure long-term scalability and resiliency, MFRS should begin planning for incremental enhancements, such as float dispatchers, advanced scheduling systems, and after-hours supervisory coverage, which would enable the Centre to maintain high performance while accommodating future growth in call volume or service area. This proactive approach ensures MFRS remains well-positioned to deliver high-quality dispatch services across a broader footprint.

3.8.7.7 Gap Analysis

Table 21: Gap Analysis Summary

Category	Current Capability	Expansion Requirement	Identified Gap
Facility Capacity	2 desks, no expansion room	3 – 5 desks; redundancy, break out space	Physical space inadequate
CAD & RMS	Single jurisdiction, basic automation	Multi jurisdiction, automated dispatch	Needs full replacement
Staff Supervision	No after-hours supervisor	24/7 supervisory coverage	Requires new staffing position
NG-911 Readiness	Partial	Full NG-911 by 2025	Requires completed NG-911 upgrades per the current schedule
Cost Recovery Model	Internal budget	SLA-based external billing	Model needs to be developed

3.8.7.8 Expansion Options

Option 1: Maintain Status Quo

- Continue providing service to Milton only.
- No capital investment or risk exposure.
- Limits long-term opportunities for shared services.

Benefits of Maintaining Status Quo:

- No immediate capital or operational expenditure required.
- Maintains focus on internal service levels and core responsibilities.
- Avoids risks associated with inter-municipal agreements and service failures.
- Simplifies staffing, oversight, and governance.
- No need for CAD or facility upgrades in the short term.

Challenges of Maintaining Status Quo:

- Missed opportunity to generate revenue through external dispatch contracts.
- Does not address CAD upgrade requirements or system lifecycle risks.

Option 2: Virtual Expansion Model (within the existing Station 3 or from Station 2)

Virtual dispatch refers to a decentralized dispatching model in which fire dispatch services are provided from multiple networked locations, rather than solely from a single centralized communications centre. In the context of MFRS, virtual dispatch would involve:

- Add secure, networked remote dispatch within the existing station 3 or from the back-up centre at Station 2.
- Requires CAD modernization, VPNs, communications redundancy, and SOPs.
- Provides scalable capacity and improved disaster recovery.
- Reduces the opportunity for in person situational awareness.

Benefits of Virtual Dispatch:

- Enables service expansion without needing a new facility.
- Improves resiliency and redundancy for disaster recovery.
- Supports interoperability across jurisdictions.
- Offers phased, scalable implementation.
- Can reduce capital costs compared to purpose-built centres.

Challenges of Virtual Dispatch:

- Increased IT complexity and reliance on secure networking infrastructure.
- Difficult to supervise remote staff and ensure consistent performance.
- Higher exposure to cybersecurity risks.
- Potential delays in communication or coordination during high-demand incidents.
- Requires consistent training and standardized SOPs across remote locations.
- May lack physical redundancy (e.g., power, connectivity) at remote pods.
- Reduced situational awareness compared to a centralized control room during major events.

Option 3: New Purpose-Built Facility

- Construct a new fire dispatch (New Station 6) and communications hub.
- Supports multi-department dispatching, scalable long-term use.
- Significant capital cost.

Benefits of a Purpose-Built Facility:

- Provides dedicated space designed specifically for modern fire communications and multi-agency dispatch.
- Enables scalability to accommodate long-term growth in service area and call volume.
- Offers optimal physical redundancy (power backup, server rooms, HVAC) for continuity of operations.
- Enhances dispatcher collaboration, team communication, and supervision in a centralized environment.
- Improves overall service reliability and credibility when pursuing partnerships or shared services.
- Easier to integrate ergonomic design, soundproofing, and high-efficiency systems (LEED or Net-Zero).

Challenges of a Purpose-Built Facility:

- High initial capital cost for land, design, and construction.
- Requires long planning and approval timelines (e.g., 3–5 years).
- Operational disruption may occur during transition or technology migration.
- Staffing and technology investment must be in place in parallel to facility build.
- Potential political or interdepartmental delays if joint use or cost-sharing is involved.

3.8.7.9 Financial Considerations

The financial implications of expanding MFRS's Communications Centre are significant and multifaceted. Capital investment would be required for physical infrastructure upgrades or the construction of a purpose-built facility. These costs may include design, construction, equipment, and permitting. Additional investment would be necessary to modernize the Computer-Aided Dispatch (CAD) system, integrate AVL, enable NG-911 readiness, and support remote or multi-jurisdictional dispatch capabilities.

From an operational standpoint, ongoing expenses would include the salaries and benefits of newly hired Communications Technicians and supervisory staff, training costs, and support services such as IT and maintenance. The addition of client municipalities would also increase call volume, requiring scalable staffing and scheduling solutions to maintain service levels.

A comprehensive cost recovery framework would be essential to ensure financial sustainability. Potential models could include per-call fees, tiered service agreements, or flat-rate contracts, each with varying levels of complexity and equity. Consideration must also be given to how capital contributions, onboarding costs, and shared technology infrastructure would be allocated among participating agencies. A phased approach may allow for pilot testing with one or two external clients before committing to major capital expenditures.

The Town should also explore opportunities for grant funding through provincial or federal programs focused on public safety, digital infrastructure, or climate-resilient facility development. This would help offset upfront costs and reduce the long-term financial burden on taxpayers while enhancing regional emergency response capacity.

3.8.7.10 Financial Model Options for Dispatch Cost Recovery

To support long-term financial sustainability and fairness across partner municipalities, several cost recovery models may be considered. Each has advantages and limitations depending on scale, service levels, and administrative capacity.

1. Per-Call Billing Model

In this model, each municipality is billed based on the number of emergency incidents dispatched annually. This is the most common and scalable model in Ontario and aligns costs with actual usage.

- Pros:
 - Fair and transparent: municipalities pay only for what they use.
 - Scalable to small and large departments.
 - Encourages efficient call handling and service utilization.
- Cons:
 - Requires accurate and timely call tracking/reporting.
 - Revenue may fluctuate based on annual call volume.
 - Higher administrative complexity (monthly or quarterly reconciliation).

2. Flat-Fee (Fixed Annual Rate) Model

Each municipality pays a predetermined, fixed amount annually, regardless of call volume. This model simplifies budgeting and is easier to administer.

- Pros:
 - Predictable for both MFRS and the client municipality.
 - Minimal administration.
 - Easier to implement in early stages of service expansion.
- Cons:
 - Inequitable for clients with significantly different call volumes.
 - May result in overpayment or underpayment relative to usage.
 - Less incentive to reduce unnecessary dispatches.

3. Tiered Service Level Model

Clients are billed based on the level of service requested (e.g., basic dispatch, dispatch + after-hours call handling, data analytics). Each tier has a distinct cost.

- Pros:
 - Flexible: municipalities can choose the level of service that meets their needs.
 - Incentivizes service upgrades or optional features (e.g., priority paging, public alerting).
 - Aligns cost with service complexity.

- Cons:
 - Requires robust service level tracking and defined deliverables.
 - More complex to administer and explain to stakeholders.

4. Cost-Sharing / Pooled Operations Model

Multiple municipalities jointly fund a shared dispatch service based on agreed-upon formulas (e.g., population, call volume, assessed value). This model promotes regional collaboration and long-term capital planning.

- Pros:
 - Encourages regionalization and shared investment.
 - Supports stable staffing and capital planning.
 - Can include shared facility or CAD costs.
- Cons:
 - Requires strong governance and formalized cost-sharing agreements.
 - May lead to disputes over proportional contributions.
 - Needs clear mechanisms for new entrants or withdrawals.

5. Hybrid Model (Base Fee + Per-Call or Tiered Add-Ons)- (PREFERRED)

Combines elements of fixed and variable pricing, for example, a base annual fee plus a per-call charge or fee for additional services.

- Pros:
 - Balances predictability and fairness.
 - Allows for customization while ensuring core cost recovery.
 - Can evolve with service expansion.
- Cons:
 - Moderate administrative effort.
 - Requires transparent metrics and enforcement of service agreements.

3.8.7.11 Legal and Governance Framework

Expanding MFRS's Communications Centre to provide services to external municipalities introduces several legal and governance considerations. At the forefront is the need for robust and enforceable Service Level Agreements (SLAs). These contracts must clearly define the scope of services, performance benchmarks, reporting obligations, billing structures, and terms for dispute resolution. SLAs must also outline liability frameworks, indemnification clauses, and protocols for service interruption.

Governance arrangements will need to be structured in a way that protects the Town of Milton's interests while offering clarity and transparency to partner agencies. It is essential to ensure that the core mandate of providing dispatch services to the Town of Milton is not compromised by the addition of new clients. Provisions for priority response, workload monitoring, and service performance audits should be embedded in all agreements.

Legal review should be conducted in close consultation with municipal lawyers and insurance providers, to address issues of data privacy, cybersecurity, and compliance with applicable provincial regulations, including the Municipal Act and legislation governing emergency services. This is particularly critical given the sensitive nature of 911 communications and the introduction of NG-911 standards.

As the Communications Centre transitions toward a regional or multi-jurisdictional model, formal structures such as a Dispatch Advisory Committee may be required. These bodies can provide, operational input, and collaborative decision-making, helping to align service expectations and resolve issues constructively. Regular reporting to Town Council and the CAO will ensure accountability and transparency throughout the expansion process.

3.8.7.12 Risk Identification and Mitigation

Key Risks:

- Service degradation to Milton residents.
- Technology implementation delays or failures.
- Inadequate cost recovery or budgeting.
- Staffing shortages or training gaps.

Mitigation Strategies:

- Phased implementation with clear service benchmarks.
- Investment in backup systems and site redundancy.
- Continuous monitoring and quarterly SLA reviews.
- Recruitment and onboarding plans aligned with growth.

3.8.7.13 Strategic Recommendations

- Initiate a CAD replacement project aligned with NG-911 standards.
- Conduct a costed business case including capital, staffing, and facility options.
- Engage with potential client municipalities to define needs and intent.
- Develop a financial model and SLA framework for Council approval.
- Evaluate temporary dispatch pod or hybrid solutions for near-term growth.

Cost Recovery Model	Description	Pros	Cons	Typical Use Case
Per-Call Billing	Fee charged per dispatched call	- Easy to administer - Scales with service demand	- Unpredictable revenue - May discourage call sharing	Small to mid-size departments with variable call volume
Flat Annual Fee	Fixed annual rate regardless of calls	- Predictable budget - Simplifies billing	- May over/undercharge without accurate baseline	Low-volume departments or long-term clients
Tiered/Sliding Scale	Rate based on predefined call volume tiers	- Scales fairly with demand - Ensures cost recovery	- Slightly more complex to administer	Medium to large departments with known volume ranges
Proportional Cost-Sharing	Customer pays % based on share of total call volume	- Equitable - Promotes collaboration	- Requires detailed tracking - Annual recalibration needed	Joint service delivery or regional partnerships
Service Contract + Capital Contribution	Annual fee plus share of capital/system upgrade costs	- Supports long-term planning - Funds infrastructure	- Higher entry cost for smaller partners	Multi-year agreements with shared infrastructure investment
Regional Cooperative Agreement	Shared dispatch under a formal board or joint agreement	- Shared governance - Eligibility for joint grants	- Legal and administrative complexity	Regional models seeking cost-efficiency and resiliency
One-Time Onboarding Fees	Initial setup, training, and system integration	- Recovers upfront integration costs	- Must be clearly defined in contract	All new clients onboarding to an existing dispatch operation

Observation #17: As Milton continues to grow and call volumes rise, the demands placed on MFRS's dispatch system are increasing in both frequency and complexity. Current dispatch operations are functional, but performance data reveals that alarm processing times have room for improvement, particularly in meeting the industry benchmark of processing emergency calls within 64 seconds, 90% of the time. Workflow analysis indicates that a single-dispatcher model may limit efficiency during peak periods, as it requires personnel to handle simultaneous tasks of call intake and dispatching. The absence of functional specialization may contribute to slower alarm handling times and increased stress during high call volumes or complex incidents.

Recommendation #17a: Continue to enhance its dispatch operations by advancing workflow efficiency, adopting emerging technologies, and strengthening ongoing staff training initiatives to support high-performance emergency communications.

Recommendation #17b: Adopt a two-person dispatch model that clearly delineates the roles of call taker and dispatcher to enhance operational efficiency and reduce alarm processing times.

Recommendation #17c: Continue to monitor, analyze, and improve alarm handling performance with the goal of achieving the established benchmark of 64 seconds or less for emergency calls, 90% of the time.

Suggested completion: 1-12 months then ongoing

Cost: Minimal

Strategic Objective: Dispatch

Rationale: To meet growing service demands and maintain high standards of emergency response, MFRS should continue enhancing its dispatch operations through targeted investments in workflow improvements, staff training, and technology. Implementing a two-person dispatch model, separating call-taking and dispatch functions, will streamline operations, reduce processing delays, and improve dispatcher focus and accuracy. Further, leveraging emerging technologies such as upgraded CAD systems, AVL integrations, and performance analytics tools will support timely, data-driven decision-making. These changes will contribute to meeting alarm processing benchmarks and bolster overall system resilience, ensuring that MFRS continues to deliver prompt and effective emergency services to the community.

Observation #18: As call volumes increase and the Town of Milton continues to urbanize, the demand on MFRS's dispatch services has grown correspondingly. The current dispatch infrastructure, while functional, is limited in its scalability and long-term sustainability. In particular, the existing Communications Centre is not equipped to handle future operational growth, expanded service agreements, or increasing technological requirements. While the Station 2 backup dispatch center offers a short-term redundancy solution, it is not designed to operate as a full-scale, high-performance dispatch facility over the long term.

Recommendation #18a: Provide for a virtual expansion of dispatch capacity by utilizing the backup centre at Station 2 as a temporary solution.

Recommendation #18b: Establish a new purpose-built Communications Centre to support long-term dispatch growth and regional capabilities.

Suggested completion: Depending on growth and expansion

Cost: To be determined as part of a new station build

Strategic Objective: Dispatch

Rationale: *A phased approach to expanding dispatch capacity is essential to maintaining operational reliability and service continuity. Utilizing the Station 2 backup dispatch site offers an immediate and cost-effective way to augment capacity, enhance redundancy, and provide operational relief during upgrades or high-demand scenarios. However, to ensure long-term success and to meet future regional or multi-agency dispatching needs, a purpose-built Communications Centre should be developed. This facility would accommodate advanced technologies, support additional staffing, and provide the physical space and infrastructure needed for a resilient and modern emergency communications hub. It would also align with broader regional interoperability goals and ensure MFRS remains future ready.*

Observation #19: Milton Fire & Rescue Services is currently operating a fully functional Communications Centre that effectively supports local fire dispatch and after-hours municipal response. However, infrastructure constraints, such as physical space limitations, a legacy CAD system, and lack of 24/7 supervisory coverage, restrict the Centre’s ability to scale operations. Despite these challenges, the Centre has demonstrated strong operational performance, which presents a unique opportunity to expand services regionally. The Town of Milton has identified growing interest from nearby municipalities in shared or outsourced dispatch models, and MFRS is well-positioned to serve as a regional dispatch leader with appropriate planning and investment. Existing technological gaps, financial sustainability, and legal governance must be addressed before multi-jurisdictional expansion can be pursued responsibly.

Recommendation #19a: Proactively explore opportunities to expand its dispatch service offerings to surrounding fire departments and municipalities through a structured business development and feasibility assessment process.

Recommendation #19b: Develop a comprehensive financial model to support the expansion of its Communications Centre and regional dispatch services, utilizing the Hybrid Model (Base Fee + Per-Call or Tiered Add-Ons) as the preferred cost recovery approach.

Recommendation #19c: Develop and implement a comprehensive legal and governance framework to guide the expansion of MFRS’s Communications Centre services to external municipalities including an enforceable Service Level Agreements (SLAs), formal governance structures, and legal oversight aligned with applicable provincial legislation and risk management standards.

Suggested completion: 24-36 months

Cost: Cost neutral – staff time if done internally. \$50,000 to \$100,000 depending on scope if outside legal or consultants are required.

Strategic Objective: Dispatch

Rationale: Proactively exploring dispatch service expansion aligns with the Town's strategic goals for modernization, regional collaboration, and financial sustainability. A structured business development process, including stakeholder engagement, a costed business case, and phased implementation, ensures that expansion is based on validated demand and operational feasibility. Utilizing the Hybrid Model for cost recovery offers a flexible, equitable, and scalable approach that balances predictability for partner agencies with Milton's need for cost recovery.

This model enables customization based on service complexity and helps offset rising operational costs without overcommitting local tax revenues.

Furthermore, the creation of a comprehensive legal and governance framework is essential for long-term viability and accountability. Well-defined Service Level Agreements (SLAs), clear risk allocation, data privacy protections, and dispute resolution mechanisms, are critical to mitigate liability and maintain service quality. A formal governance structure, such as a Dispatch Advisory Committee, can enhance transparency, align expectations, and foster cooperative decision-making. By adopting this multifaceted approach, MFRS can ensure that regional dispatch expansion strengthens local service delivery, promotes public safety, and positions the Town of Milton as a leader in municipal emergency communications.

3.9 Capital Assets

3.9.1 Fire Stations

Fire station/s have a long history going back to the late 17th century when organized fire services were first organized. Typically, early fire stations housed simple fire pumps, facilities for the horses that pulled the fire pumps and living quarters for firefighters. Today's fire stations are typically used to store modern firefighting apparatus and equipment as well as living quarters for firefighters in many cases for 24 hours a day, 7 days a week.

Modern fire stations are designed with functionality, efficiency, and health and safety in mind. These facilities are strategically located to ensure optimal emergency response times and are built to accommodate larger and heavier fire apparatus. In addition to operational needs, contemporary fire stations integrate environmental and occupational health considerations into their design, including dedicated decontamination areas, separate zones for contaminated gear (hot zones) and clean areas (cold zones), proper ventilation systems, and wellness amenities to support firefighter health and resilience.

3.9.1.1 Fire Stations Overview and Assessments

The Town of Milton operates five fire stations through Milton Fire & Rescue Services. These stations are strategically located to serve both urban and rural areas of the community. An overview of the MFRS fire stations and an assessment of what are considered necessary amenities for a fully functional fire station are detailed.

Station 1			
Address:	405 Steeles Avenue		
Use:	Fire & Rescue Response and Training Centre		
Bays:	4 (Drive-through)	Unit Capacity:	5
Comments:	Built in 1977, the building includes three apparatus bays and a large training room that can be divided to accommodate smaller training rooms. Mechanical repair is also located in the 4 th bay used by two EVT mechanics. Recent renovations were done in 2019.		



Table 22: Station 1 Overview

Item	Description	Yes	No	Comments
1	Site security	✓		Mag Lock System
2	Adequate parking for staff and visitors	✓		
3	Internet and intranet connectivity	✓		
4	Adequate space for training – training props, hydrant	✓		
5	Back-up power supply	✓		
6	Fire Chiefs' office		✓	See Station 3
7	Deputy's Chief's offices		✓	See Station 3
8	Emergency management office		✓	See Station 5
9	Administrative support office/space		✓	See Station 3
10	Training room / meeting room	✓		
11	Office security	✓		
12	Dorm rooms	✓		
13	Day use area	✓		
14	Kitchen	✓		
15	Fitness / wellness area	✓		
16	Firefighter men's and ladies' bathrooms and showers	✓		
17	Space to safely garage and do minor maintenance on vehicles	✓		Major repairs done in one of the bays by EVT mechanics
18	Hose drying area	✓		
19	Small equipment storage and maintenance room	✓		
20	Air filling station room complete with proper ventilation	✓		
21	Industrial washer and dryer room	✓		Extractor, industrial washer, and dryer
22	Bunker gear storage room complete with proper drying and ventilation	✓		
23	Consumables storage room	✓		
24	Sufficient workstations	✓		
25	Sufficient supervisor space	✓		
26	Breakout or quiet room	✓		
27	Public and Staff Washrooms	✓		
28	Locker room	✓		
29	Proper interior Lighting	✓		

Station 2			
Address:	2665 Reid Side Road		
Use:	Fire & Rescue		
Bays:	3	Unit Capacity:	2
Comments:	Built in 2003, this facility is primarily used by the part-time firefighter response and is shared with the Halton Regional Police Services.		



Table 23: Station 2 Overview

Item	Description	Yes	No	Comments
1	Site security	✓		Mag-Lock System
2	Adequate parking for staff and visitors	✓		
3	Internet and intranet connectivity	✓		
4	Adequate space for training – training props, hydrant		✓	Training done at Station 1
5	Back-up power supply	✓		
6	Fire Chiefs' office		✓	See Station 3
7	Deputy's Chief's offices		✓	See Station 3
8	Emergency management office		✓	See Station 5
9	Administrative support office/space		✓	See Station 3
10	Training room / meeting room	✓		Major training is done at Station 1
11	Office security	✓		
12	Dorm rooms		✓	
13	Day use area	✓		
14	Kitchen	✓		
15	Fitness / wellness area	✓		
16	Firefighter men's and ladies' bathrooms and showers	✓		
17	Space to safely garage and do minor maintenance on vehicles	✓		Major repairs done at Station 1 by EVT mechanics
18	Hose drying area	✓		
19	Small equipment storage and maintenance room	✓		
20	Air filling station room complete with proper ventilation	✓		
21	Industrial washer and dryer room	✓		Extractor, industrial washer, and dryer
22	Bunker gear storage room complete with proper drying and ventilation	✓		
23	Consumables storage room	✓		
24	Sufficient workstations	✓		
25	Sufficient supervisor space	✓		
26	Breakout or quiet room		✓	
27	Public and Staff Washrooms		✓	
28	Locker room	✓		
29	Proper interior Lighting	✓		

Station 3			
Address:	610 Savoline Blvd.		
Use:	Fire & Rescue Response and Administration		
Bays:	3	Unit Capacity:	4
Comments:	Built in 2012, this facility is home to Fire Administration, Fire Prevention/Public Education and Support Services along with part-time and full-time firefighter staff 24 hrs./day, 7 days a week.		



Table 24: Station 3 Overview

Item	Description	Yes	No	Comments
1	Site security	✓		Mag-Lock System
2	Adequate parking for staff and visitors	✓		
3	Internet and intranet connectivity	✓		
4	Adequate space for training – training props, hydrant	✓		
5	Back-up power supply	✓		
6	Fire Chiefs' office	✓		
7	Deputy's Chief's offices	✓		
8	Emergency management office		✓	See Station 5
9	Administrative support office/space	✓		
10	Training room / meeting room	✓		Major training is done at Station 1
11	Office security	✓		
12	Dorm rooms	✓		
13	Day use area	✓		
14	Kitchen	✓		
15	Fitness / wellness area	✓		
16	Firefighter men's and ladies' bathrooms and showers	✓		
17	Space to safely garage and do minor maintenance on vehicles	✓		Major repairs done at Station 1 by EVT mechanics
18	Hose drying area	✓		
19	Small equipment storage and maintenance room	✓		
20	Air filling station room complete with proper ventilation	✓		
21	Industrial washer and dryer room	✓		Extractor, industrial washer, and dryer
22	Bunker gear storage room complete with proper drying and ventilation	✓		
23	Consumables storage room	✓		
24	Sufficient workstations	✓		
25	Sufficient supervisor space	✓		
26	Breakout or quiet room	✓		
27	Public and Staff Washrooms	✓		
28	Locker room	✓		
29	Proper interior Lighting	✓		

Station 4			
Address:	405 James Snow Parkway South		
Use:	Fire & Rescue Response		
Bays:	2	Unit Capacity:	3
Comments:	Built in 2010, this facility is staffed by full-time firefighters 4 hrs./day, 7 days a week that support Milton's urban core.		



Table 25: Station 4 Overview

Item	Description	Yes	No	Comments
1	Site security	✓		Mag Lock System
2	Adequate parking for staff and visitors	✓		
3	Internet and intranet connectivity	✓		
4	Adequate space for training – training props, hydrant	✓		Major training done at Station 1
5	Back-up power supply	✓		
6	Fire Chiefs' office		✓	See Station 3
7	Deputy's Chief's offices		✓	See Station 3
8	Emergency management office		✓	See Station 5
9	Administrative support office/space		✓	See Station 3
10	Training room / meeting room	✓		Major training is done at Station 1
11	Office security	✓		
12	Dorm rooms	✓		
13	Day use area	✓		
14	Kitchen	✓		
15	Fitness / wellness area	✓		
16	Firefighter men's and ladies' bathrooms and showers	✓		
17	Space to safely garage and do minor maintenance on vehicles	✓		Major repairs done at Station 1 by EVT mechanics
18	Hose drying area	✓		
19	Small equipment storage and maintenance room	✓		
20	Air filling station room complete with proper ventilation	✓		
21	Industrial washer and dryer room	✓		Extractor, industrial washer, and dryer
22	Bunker gear storage room complete with proper drying and ventilation	✓		
23	Consumables storage room	✓		
24	Sufficient workstations	✓		
25	Sufficient supervisor space	✓		
26	Breakout or quiet room		✓	
27	Public and Staff Washrooms		✓	
28	Locker room	✓		
29	Proper interior Lighting	✓		

Station 5			
Address:	7825 Louis St. Laurent Avenue		
Use:	Fire & Rescue Response		
Bays:	3	Unit Capacity:	3
Comments:	Built in 2021, this facility is staffed by full-time firefighters 24 hrs./day, 7 days a week.		



Table 26: Station 5 Assessment

Item	Description	Yes	No	Comments
1	Site security	✓		Mag Lock System
2	Adequate parking for staff and visitors	✓		
3	Internet and intranet connectivity	✓		
4	Adequate space for training – training props, hydrant		✓	Major training done at Station 1
5	Back-up power supply	✓		
6	Fire Chiefs' office		✓	See Station 3
7	Deputy's Chief's offices		✓	See Station 3
8	Emergency management office	✓		Designated Primary EOC, Alternate EOC located at Town Hall
9	Administrative support office/space	✓		See Station 3
10	Training room / meeting room	✓		Major training is done at Station 1
11	Office security	✓		
12	Dorm rooms	✓		
13	Day use area	✓		
14	Kitchen	✓		
15	Fitness / wellness area	✓		
16	Firefighter men's and ladies' bathrooms and showers	✓		
17	Space to safely garage and do minor maintenance on vehicles	✓		
18	Hose drying area	✓		
19	Small equipment storage and maintenance room	✓		
20	Air filling station room complete with proper ventilation	✓		
21	Industrial washer and dryer room	✓		Extractor, industrial washer, and dryer
22	Bunker gear storage room complete with proper drying and ventilation	✓		
23	Consumables storage room	✓		
24	Sufficient workstations	✓		
25	Sufficient supervisor space	✓		
26	Breakout or quiet room	✓		
27	Public and Staff Washrooms	✓		
28	Locker room	✓		
29	Proper interior Lighting	✓		

3.9.2 Apparatus and Equipment

Goal #9: Ensure that apparatus and equipment are available in the appropriate quantity, maintained in a ready and reliable state, that align with operational requirements. Through robust preventative maintenance and asset management practices, the Service will support safe, effective, and efficient emergency response across the community.

Fire apparatus and emergency vehicles are typically the largest asset expenditures for any fire department. Purchasing and managing these assets requires strong fiscal responsibility to endure public and local government scrutiny. Currently, MFRS has considerable monies invested in vehicles and equipment.

3.9.2.1 NFPA Standards for Fire Apparatus

NFPA has developed standards to assist a fire service with the design, maintenance, inspection, testing, life cycling, and dispersal for their fire apparatus. Fire departments may choose to adopt these standards or utilize them as a reference in their own standards and practices.

NFPA 1901: Standard for Automotive Fire Apparatus

The NFPA 1901 standard defines the requirements for new automotive fire apparatus and trailers, designed to be used under emergency conditions to transport personnel and equipment and to support the suppression of fires and mitigation of hazardous conditions. This standard recommends that fire apparatus should respond to first alarms for the first 15 years of service, with the expectation that they perform as designed 95% of the time. For the next five years, it should be held in reserve for use at large fires or used as a temporary replacement for-of-service first line apparatus.

NFPA 1911: Standard for the Inspection, Maintenance, Testing and Retirement of In-Service Emergency Vehicles

The NFPA 1911 standard defines the minimum requirements for establishing an inspection, maintenance, and testing program. Also included are guidelines for emergency vehicle refurbishment and retirement.

The Underwriters Laboratory of Canada utilizes many of the provisions within these NFPA standards which are referenced by Fire Underwriters Survey (FUS) for determining fire insurance ratings for a community.

For example, it follows the life cycle program with the exception that it may award full credit for a fire apparatus older than 15 years, but not more than 20 years, in remote locations only if the piece of equipment is deemed in excellent condition and all necessary upgrades are done. The value of the additional credit in this case, which is only a portion of the total grading for a final FUS rating, may well be overshadowed by the cost of maintaining an older unit. In addition, the NFPA 1901: Standard for Automotive Fire Apparatus recommends the following:

D.1 General

To maximize firefighter capabilities and minimize the risk of injuries, it is important that fire apparatuses be equipped with the latest safety features and operating capabilities.

In the last 10 to 15 years, much progress has been made in upgrading functional capabilities and improving the safety features of fire apparatus. Apparatuses more than 15 years old might include only a few of the safety upgrades required by the recent editions of the NFPA fire department apparatus standards or the equivalent Underwriters Laboratories of Canada (ULC) standards. Because the changes, upgrades, and fine-tuning to NFPA 1901 have been truly significant, especially in safety, fire departments should seriously consider the value (or risk) to firefighters of keeping fire apparatus more than 15 years old in first line service. It is recommended that apparatus more than 15 years old that have been properly maintained and that are still in serviceable condition be placed in reserve status; be upgraded in accordance with NFPA 1912; and incorporate as many features as possible of the current fire apparatus standard (See Section D3 of Standard). This will ensure that, while the apparatus might not totally comply with the current editions of the automotive fire apparatus standards, many of the improvements and upgrades required by the current editions of the standards are available to the firefighters who use the apparatus. Apparatuses that were not manufactured to the applicable NFPA fire apparatus standards or that are over 25 years old should be replaced.

3.9.2.2 Underwriters Laboratories of Canada

Current Underwriters Laboratories of Canada (ULC¹⁷) and NFPA 1901: Standard for Automobile Firefighting Apparatus Standards recommend using apparatus on the front line for up to 15 years, then as a backup for another four to five years. Of course, this timeline is dependent on the frequency of use, scheduled maintenance, and budgets. As indicated in Table 27, some emergency vehicles' life cycles can be extended due to low usage or serviceable condition. A leading practice is to have a complete condition survey conducted to determine if there is usable life cycle remaining. This condition survey must consider the NPFA and FUS standards along with the maintenance and cost records of the respective vehicle.

Table 27: Fire Apparatus Service Schedule (Fire Insurance Grading)

Apparatus Age (Yrs.)	Major Cities ³	Medium Sized Cities ⁴	Small Communities ⁵ and Rural Centres
0 – 15	First Line Duty	First Line Duty	First Line Duty
16-20	Reserve	2 nd Line Duty	First Line Duty
20-25 ¹	No Credit in Grading	No Credit in Grading or Reserve ²	No Credit in Grading or 2 nd Line Duty ²
26-29 ¹	No Credit in Grading	No Credit in Grading or Reserve ²	No Credit in Grading or Reserve ²
30+	No Credit in Grading	No Credit in Grading	No Credit in Grading
¹ All listed fire apparatus 20 years of age and older are required to be service tested by recognized testing agency on an annual basis to be eligible for grading recognition (NFPA 1071).			
² Exceptions to age status may be considered in a small to medium sized communities and rural centers conditionally, when apparatus condition is acceptable, and apparatus successfully passes required testing.			
³ Major Cities are defined as an incorporated or unincorporated community that has: a populated area (or multiple areas) with a density of at least 400 people per square kilometer; AND a total population of 100,000 or greater.			
⁴ Medium Communities are defined as an incorporated or unincorporated community that has: a populated area (or multiple areas) with a density of at least 200 people per square kilometer; and/or a total population of 1,000 or greater.			
⁵ Small Communities are defined as an incorporated or unincorporated community that has: no populated areas with densities that exceed 200 people per square kilometer; AND does not have a total population of more than 1,000.			

¹⁷ Underwriters Laboratories of Canada (ULC) is an independent product safety testing, certification, and inspection organization. www.canada.ul.com

3.9.2.3 Fire Apparatus Design and Procurement

Fire apparatus is designed and tendered based on the unique requirements of the fire service and the community needs that it serves. With the design, tender and procurement processes typically taking two to three years or longer as well as with the expected life cycles of these apparatus of 20 years or more, it is important that decisions accurately reflect the immediate needs and those in the future.

3.9.2.4 Fire Apparatus Maintenance and Repair

In Ontario, all fire apparatus with a gross weight, registered gross weight, or manufacturers gross vehicle weight rating exceeding 4500 kilograms must be inspected on an annual basis in accordance with regulations made under the Highway Traffic Act. These vehicles are required to display an inspection sticker as evidence of compliance with this requirement.

Daily driver inspections for commercial vehicles are a requirement under the Act. Fire vehicles are not included in this requirement, however, most fire departments in Ontario mandate, at minimum, daily inspections either at the beginning of a shift or post-trip.

A sound and reliable preventative maintenance program is a vital component of the overall fleet management process, ensuring each piece operates reliably, safely, and effectively while assisting in making it to the anticipated life cycle. Poor maintenance scheduling or neglect of required checks and repairs can lead to accidents, breakdowns, and life safety issues. A fire apparatus pre-maintenance program should consist of the following components:

- Trip inspections (daily, pre-trip, post-trip).
- Regular preventative maintenance scheduling.
- Annual preventative maintenance comprehensive check.

MFRS currently manages the maintenance, repair, testing, and certification of all heavy emergency vehicles in-house through two certified Emergency Vehicle Technicians (EVTs). These technicians are responsible for maintaining a growing fleet of front-line and reserve apparatus, ensuring compliance with National Fire Protection Association (NFPA) standards and applicable provincial safety regulations. The EVT team plays a critical role in sustaining the operational readiness of fire apparatus and safeguarding firefighter and public safety. Routine and preventive maintenance tasks, including pump testing, annual inspections, brake servicing, and minor repairs, are performed by the EVTs, who have demonstrated a high level of technical competence and commitment to the reliability of MFRS's fleet.

Currently, the EVT's conduct most maintenance activities out of Station 1, where one bay has been allocated for apparatus servicing. However, this space was not originally designed as a dedicated vehicle maintenance facility, and its limitations have become increasingly apparent as the fleet and service demands grow. The bay lacks sufficient clearance, appropriate equipment such as vehicle lifts or pits designed for heavy vehicles, and adequate space for safely working on multiple apparatus simultaneously. The current setup also restricts workflow efficiency and can create operational delays when apparatus require unscheduled repairs or longer service times. The constrained workspace increases safety risks for EVT personnel and limits the department's capacity to conduct more complex repairs in-house.

As MFRS continues to expand its fleet in response to community growth and intensification, the limitations of the current maintenance arrangement are becoming a significant operational concern. Without a purpose-built or upgraded maintenance facility, the department faces increasing risk of delayed apparatus availability, overreliance on costly external repairs, and compromised safety or compliance. Addressing the current state of apparatus maintenance through infrastructure improvements or a future centralized logistics and maintenance hub should be considered a strategic priority in long-range planning efforts. This will ensure the sustainability of the in-house maintenance model and support the safe, reliable delivery of emergency services across Milton.

Observation #20: Milton Fire & Rescue Services (MFRS) currently performs most of its apparatus maintenance in-house using two full-time mechanics who operate within limited and suboptimal space, specifically a bay at Station 1 not originally designed for mechanical work. As the fleet grows in size and complexity to support future stations and staffing expansions, the current setup is increasingly insufficient for safe, efficient, and scalable maintenance operations. Additionally, the lack of a dedicated facility poses challenges in storing parts, performing multi-vehicle servicing, and conducting repairs without interrupting operational space.

Public Works and Transit Departments within the Town already operate facilities with the infrastructure necessary to support vehicle servicing, including high bays, specialized tooling, and vehicle lifts. Exploring a formal partnership with these departments presents a viable opportunity to secure shared or dedicated maintenance space, reduce duplication of infrastructure, and create a more efficient and collaborative municipal approach to fleet management.

Recommendation #20: Explore a formal partnership with the Town's Public Works or Transit Departments to secure dedicated or shared space within an existing or future municipal facility for apparatus maintenance, inspections, and mechanical support.

Suggested completion: 24-36 months

Cost: Costs will vary depending on the need for added infrastructure within the space

Strategic Objective: Facilities, Apparatus, and Equipment

***Rationale:** A formalized partnership with Public Works or Transit could provide MFRS with access to purpose-built, professionally equipped facilities for heavy vehicle maintenance and inspections without requiring a standalone capital investment in the near term. Shared use of municipal assets supports cross-departmental efficiency and cost savings by leveraging existing space, utilities, and mechanical resources already in place or planned for expansion.*

This approach would also enhance safety and workflow for MFRS mechanics, improve preventative maintenance scheduling, and potentially allow for expanded support services (e.g., fabrication, diagnostics, lift inspections). In the long term, co-locating or integrating fire apparatus maintenance into a centralized fleet facility would contribute to better asset management, streamlined procurement processes, and alignment with broader municipal operational planning. It represents a fiscally responsible and operationally sound solution to supporting MFRS's growing fleet and service delivery needs.

3.9.2.5 Fire Apparatus Replacement and Dispersal

MFRS operates a diverse and modern fleet of emergency response apparatus designed to meet the operational demands and risk profiles of the Town of Milton. As of the 2024 Asset Management Plan, the service operates 36 vehicles with a total asset value of \$20,349,236.00. Of these, 16 are classified as heavy apparatus, including 7 pumpers, 2 rescues, 3 aerials, 3 tankers, and 1 air/light unit. These vehicles are strategically located across MFRS's five stations, with each unit assigned to fulfill specific roles based on the risk and needs of their designated response areas. In addition to frontline vehicles, the department operates a fleet of light emergency and support vehicles used by administrative staff, fire inspectors, training officers, and maintenance personnel.

All frontline emergency vehicles, with the exception of four aging support units, are rated in good or very good condition. Apparatus assignments consider a range of operational requirements such as structural firefighting, vehicular extrication, water supply, technical rescue, and elevated fire attack. The current configuration aligns with the Town's population growth, urban development patterns, and fire risk profile, and ensures that the community is equipped with the necessary resources to manage all-hazards response.

MFRS maintains a ten-year capital replacement plan for its fleet, guided by manufacturer recommendations, NFPA standards, operational workload, and asset condition. This replacement strategy ensures that frontline and reserve units remain service-ready, safe, and cost-effective. Heavy apparatus is generally scheduled for replacement on a 10–12-year cycle for frontline use, with an additional 5 years of service in a reserve capacity where feasible. Apparatus nearing the end of their service life are assessed for continued reliability, potential refurbishment, and alignment with updated safety and performance standards.

Apparatus replacement decisions are informed by several key metrics, including original acquisition cost, current condition, historical maintenance expenses, anticipated replacement cost (adjusted for inflation), and salvage value. NFPA 1911 recommends that properly maintained apparatus over 15 years be moved to reserve status, with replacement at or before 25 years. FUS credit scoring also considers apparatus age and condition, which can impact community insurance ratings. MFRS recognizes that vehicles assigned to busier stations are subject to accelerated wear and may require earlier replacement or reassignment to lower-call-volume locations.

As of this review, MFRS's heavy apparatus fleet is in overall good condition, but there are opportunities to further refine the replacement lifecycle. The current lack of a digital fleet management system limits data-driven optimization of lifecycle timing. Implementing such a system would allow MFRS to better evaluate costs of ongoing maintenance versus replacement, support improved budgeting accuracy, and ensure the timely acquisition of new units. Additionally, the Town should continue to maintain an adequate pool of reserve apparatus, including pumpers, tankers, and aerials, to provide operational flexibility during periods of maintenance, major incidents, or mechanical failure. The existing commitment to the ten-year capital plan reflects the Town of Milton's long-term vision for sustainable asset management and continued public safety excellence.

The lifespan of apparatus varies depending on its type and use, along with regular maintenance and testing standards. Fire services typically designate a lifecycle to each piece of apparatus and other emergency vehicles and contribute to a capital reserve fund to ensure enough funds are available when the replacement is needed.

Through careful analysis the optimal replacement year can be determined. The table below shows an example of an apparatus purchased in 2014 with a 20–21-year replacement timeline. Assumptions need to be determined for a particular piece of apparatus to consider the type of factors above, as well as requirements for the replacement apparatus to meet the needs for the next 20 plus years. Annual reserve contributions should be made to ensure sufficient funds are available at the time of anticipated replacement.

Table 28: Fire Apparatus Life Cycle Cost Projection Example

Period	Year	Replacement cost	Based on %	Difference between original vs replacement	Depreciated value
0	2014	\$375,415.05		\$0.00	\$375,415.05
1	2015	\$386,677.50	3.0%	\$11,262.45	\$300,332.04
2	2016	\$398,277.83	3.0%	\$22,862.78	\$240,265.63
3	2017	\$410,226.16	3.0%	\$34,811.11	\$192,212.51
4	2018	\$422,532.95	3.0%	\$47,117.90	\$153,770.00
5	2019	\$485,912.89	15.0%	\$110,497.84	\$123,016.00
6	2020	\$558,799.82	15.0%	\$183,384.77	\$98,412.80
7	2021	\$642,619.79	15.0%	\$267,204.74	\$78,730.24
8	2022	\$684,390.08	6.5%	\$308,975.03	\$62,984.19
9	2023	\$728,875.44	6.5%	\$353,460.39	\$50,387.36
10	2024	\$776,252.34	6.5%	\$400,837.29	\$40,309.88
11	2025	\$826,708.74	6.5%	\$451,293.69	\$32,247.91
12	2026	\$880,444.81	6.5%	\$505,029.76	\$25,798.33
13	2027	\$937,673.72	6.5%	\$562,258.67	\$20,638.66
14	2028	\$998,622.51	6.5%	\$623,207.46	\$16,510.93
15	2029	\$1,063,532.98	6.5%	\$688,117.93	\$13,208.74
16	2030	\$1,132,662.62	6.5%	\$757,247.57	\$10,566.99
17	2031	\$1,206,285.69	6.5%	\$830,870.64	\$10,000.00
18	2032	\$1,284,694.26	6.5%	\$909,279.21	\$10,000.00
19	2033	\$1,368,199.39	6.5%	\$992,784.34	\$10,000.00
20	2034	\$1,457,132.35	6.5%	\$1,081,717.30	\$10,000.00

Figure 8: Fire Apparatus Life Cycle Cost Projection Example

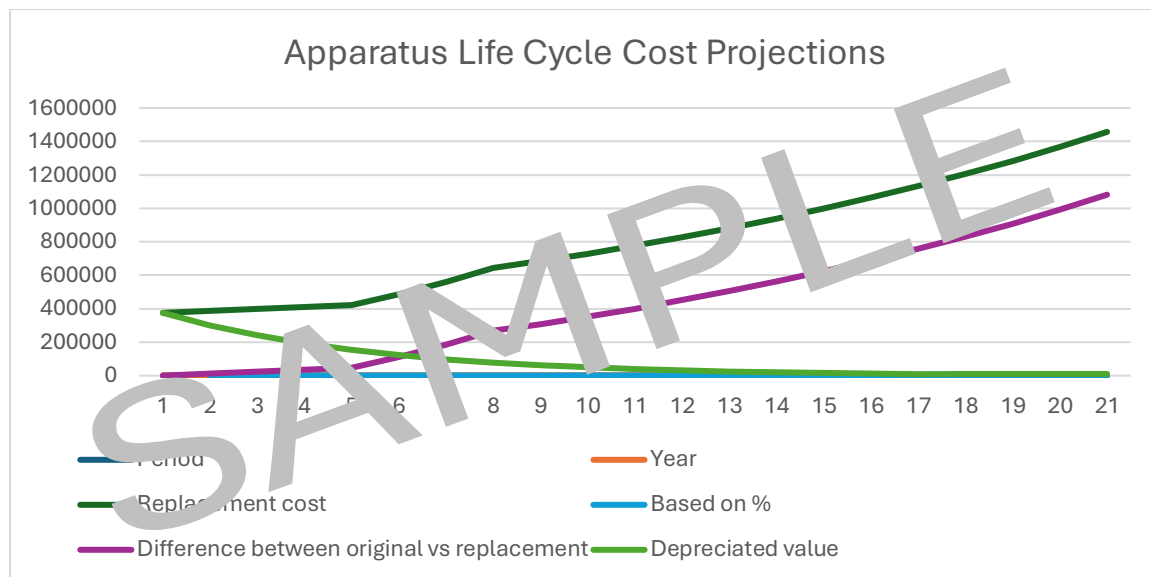


Table 28 and Figure 8 show that the monies put into the replacement reserve fund are close to the projected replacement cost in year 15 and require additional contributions to extend past. Note the following key points:

- Five-year increase to replacement cost from 15-20 years = \$393,599.37
- Five-year decrease in depreciation value from 15-20 years = \$3,208.74
- Total increased costs to retain apparatus for additional 5 years (15-20) = \$396,808.11
- Additional contributions to reserve fund \$79,361.62
- Difference between 20 and 15 years is \$1,447,132.35 - \$1,050,324.24 = - \$396,808.11 or an additional \$2,335.00 of contribution per year

A fire service that utilizes a similar process as above, taking into consideration local conditions to determine the optimal replacement time for each major piece of apparatus, will be able to accurately ensure sufficient funds are available when required.

3.9.2.6 Apparatus and Emergency Vehicle Fleet Inventory

MFRS, through the Town of Milton, owns and maintains 16 heavy apparatus (7 pumpers, 2 rescues, 3 aerials, 3 Tankers, 1 Air/Light Unit) and a number of light emergency vehicles which are primarily housed at the stations 1,2 and 3. Each piece of apparatus is assigned to a fire station has specific roles in anticipation of the risks in their response zone. The light vehicles are utilized by administration, fire inspectors/investigators, maintenance, and training staff.

MFRS inventory of apparatus and equipment is modern and well maintained. A detailed table of the current heavy apparatus fleet is in Table 29 below.

Table 29: MFRS Apparatus and Planned Life Cycle

No.	Unit Location	Unit No.	Unit Type	Year Built	Life Expectancy	Est Replacement
1	Station 1	S401	Pumper	2016	15-years	2031
2	Station 1	R401	Rescue	2003	18-years	2021
3	Station 1	T401	Tanker	2020	16-years	2036
4	Station 1	A401	Aerial	2006	20-years	2026
5	Station 1	P401	Pumper	2010	15-years	2025
6	Station 2	P402	Pumper	2010	15-years	2025
7	Station 2	T402	Tanker	2020	16-years	2036
8	Station 3	P403	Pumper	2021	15-years	2036
9	Station 3	A403	Aerial	2013	20 years	2033
10	Station 3	AL403	Rescue	2005	18-years	2023
11	Station 3	T403	Tanker	2020	16-years	2036
12	Station 4	P404	Pumper	2021	15-years	2036
13	Station 4	P450	Pumper-Spare	2015	15-years	2030
14	Station 4	P451	Tanker-Spare	2010	16-years	2026
15	Station 5	A405	Aerial	2020	20-years	2040
16	Station 5	R405	Rescue	2007	18-years	2025

3.9.3 Ancillary Equipment

Equipment needed for field response operations, such as vehicle extrication tools, hand tools and blowers, etc. are current and appropriate for the needs of MFRS. The ancillary equipment is designed and maintained to meet the department's current core service, goals, and objectives. MFRS Equipment has various replacement cycles depending on equipment type. As the response needs change or grow, additional equipment to match the service must be considered.

3.9.4 Personal Protective Equipment

MFRS personnel are supplied with NFPA, NIOSH and CSA approved personal protective equipment (PPE), including turnout (bunker gear), gloves, helmets, boots and any specialized gear for specific rescue and EMS operations. MFRS utilizes a third-party vendor for cleaning and maintenance programs in compliance with NFPA 1971: Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting for the health and safety of their firefighters.

The PPE provided is current, appropriate, and designed to meet the department's safety goals and objectives.

3.9.5 Specialized Operations Equipment

Effective and efficient response to an incident requires equipment designed for a specific purpose. MFRS responds with specialized equipment to incidents involving motor vehicles and ice and water rescue. This equipment is typically kept on the apparatus or in-hall in anticipation of the known risks in each response zone.

MFRS equipment currently meets the goals and objectives of the department. There were concerns expressed through the surveys that there was a shortage of equipment to completely outfit the spare/backup apparatus.

SECTION 4

RESPONSE PERFORMANCE AND CAPABILITIES

4.1 Response Performance

MFRS provides emergency response across a geographically diverse municipality that includes densely populated urban neighbourhoods, growing suburban corridors, and expansive rural and agricultural lands. This variability in development patterns, road infrastructure, and risk types requires MFRS to adopt a differentiated approach to response performance standards—one that is realistic, risk-informed, and service-level appropriate across all zones.

Response performance is commonly measured in three key phases: dispatch handling time, crew assembly time, and travel time to the incident location. The ability to meet performance benchmarks is influenced by multiple local factors including station proximity, traffic conditions, road connectivity, staffing model, apparatus availability, and water supply infrastructure. Recognizing that a one-size-fits-all model does not reflect the operational realities in Milton, MFRS must consider separate urban and rural performance standards that align with industry best practices and the unique risks of each service area.

This section provides an overview of relevant industry standards and provincial legislation related to fire department response performance in Ontario. This section also includes a detailed analysis of the trends in incident types occurring within MFRS' response performance.

4.1.1 Urban Response Performance Standards

In Milton's urban service areas, MFRS applies a high-performance response model based on rapid turnout and travel benchmarks that reflect the dense infrastructure and availability of firefighting resources. These areas typically benefit from full-time staffing, strategically located fire stations, interconnected road networks, and comprehensive municipal hydrant systems. Urban response standards prioritize fast intervention for incidents where time is critical to life safety, such as structure fires, medical emergencies, and alarm activations in high-occupancy or high-rise buildings.

MFRS should aim to deploy a full initial response to high-risk incidents within established target times, while also tracking performance at the 90th percentile to ensure consistent service delivery. Travel time expectations in these areas are within 5-6 minutes from station to scene, with additional focus placed on maintaining effective response force (ERF) assembly, particularly in multi-unit incidents. Continued monitoring of turnout and travel times, as well as enhancements to dispatch and pre-fire planning systems, support a robust and efficient response model in urban environments.

Suggested Urban Performance Response Standards, include:

- Alarm Processing time: 64 seconds (time the phone is answered until the tones are activated)- 90th percentile.
- Turnout Time: 80 seconds (time tones are set to the time truck radios on the air) - 90th percentile.
- Travel time: 300 seconds (time truck radios on air to the time initial truck arrives on scene) - 90th percentile.
- Total Response time (initial): 444 seconds (time the phone is answered until the time the initial truck arrives on scene) - 90th percentile.
- Effective Response Force: 624 seconds (time phone is answered until the time 3 apparatus are on scene) - 90th percentile.

4.1.2 Rural Response Performance Standards

Rural areas within Milton present distinct challenges that impact response performance, including greater distances between stations and incidents, limited road access, and reduced municipal water infrastructure. In recognition of these conditions, MFRS has developed a rural response standard that emphasizes flexibility, risk-based prioritization, and staged deployment strategies. Rather than matching urban performance timelines, rural response models focus on achieving effective and reliable intervention while balancing operational feasibility.

All stations assigned to rural coverage are equipped with specialized apparatus including tankers, and portable water systems to support operations in areas without hydrants. Paid-on-call firefighters are also integrated into rural deployment to support incident and concurrent call coverage. MFRS response planning in rural zones should include pre-fire planning, critical infrastructure mapping, and prioritization of life safety, with performance expectations adjusted to reflect the realities of these operating environments. These tailored standards help ensure equitable service delivery across all parts of the municipality while supporting public confidence and firefighter safety.

Suggest Rural Response Performance Standards, include:

- Alarm Processing time: 64 seconds (time the phone is answered until the tones are activated)- 90th percentile.
- Turnout Time (FT staff): 80 seconds (time tones are set to the time truck radios on the air) - 90th percentile.
- Turnout Time (PT Staff): 720 seconds (12 minutes) – 90th percentile
- Travel time: 720 seconds (time truck radios on air to the time initial truck arrives on scene) - 90th percentile.
- Total Response time (FT staff): 864 seconds (time the phone is answered until the time the initial truck arrives on scene) - 90th percentile.
- Total Response Time (PT staff) 1440 seconds (24 minutes) – 90th percentile
- Effective Response Force: 1,080 seconds (time phone is answered until the time 3 apparatus are on scene) - 90th percentile.

4.2 Industry Leading Practices and Standards

4.2.1 National Fire Protection Association (NFPA) Standards

The most widely accepted standards for the fire service are developed by the National Fire Protection Association (NFPA). Established in 1986, "the NFPA is a self-funded non-profit organization devoted to eliminating death, injury, property, and economic loss due to fire, electrical, and related hazards" (NFPA, 2021)." The NFPA has developed over 300 consensus-based codes and standards designed to improve fire department effectiveness and firefighter safety. NFPA research is applied in establishing industry benchmarks for fire department operations, training, and equipment. Many of these standards form the basis of and are referenced throughout the Ontario Fire Protection and Prevention Act, 1997, and related firefighting regulations and guidelines under the Ontario Occupational Health and Safety Act, R.S.O. 1990.

The NFPA has conducted considerable research in developing standards that reflect the primary value of life-safety in emergency response for responders and victims. The standard addressing fire department operational performance and service levels is NFPA 1710: Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments. This standard provides the framework for fire department emergency response performance analysis, which will be discussed further in this section. Additionally, NFPA 1201: Standard for Providing Emergency Services to the Public outlines several practices for establishing and managing an effective and efficient fire service, including governance, organizational structure, planning, and resource deployment.

4.2.2 Ontario Regulatory Framework Regarding Community Fire Safety

Ontario municipalities are required to provide a public education and fire safety program, but they may or may not elect to do so by establishing a fire department. The *Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4* states the following:

“Municipal responsibilities

2(1) Every municipality shall,

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

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

Methods of providing services

(2) In discharging its responsibilities under subsection (1), a municipality shall,

(a) appoint a community fire safety officer or a community fire safety team; or

(b) establish a fire department.”

If a fire department is established, municipalities are required to meet the numerous requirements regarding fire department equipment, training and certification standards identified in the regulations of this act and the *Occupational Health and Safety Act, R.S.O. 1990*. Many of these requirements are based on NFPA standards. However, municipalities are not required to provide specific services or meet the service level standards identified in NFPA 1710. The response time goals and the number of required firefighters to respond, as identified in NFPA 1710, are considered industry-leading practices but are not mandated.

Establishing service types and associated service levels is the responsibility of the authority having jurisdiction (AHJ). For most municipalities, the AHJ is the municipal council. Formalizing service types and service levels in policy is also considered a best practice. Fire department service types and service levels are typically established to mitigate identified community risks. However, service levels should also be achievable and affordable.

The Centre for Public Safety Excellence and the International Association of Fire Chiefs developed a "standard of cover" framework to support the process of establishing fire department service types and service levels. It is a comprehensive process for identifying community risks, assessing fire department capability, and establishing appropriate emergency response service levels to mitigate community risks. The outcome of this process results in a standard of cover policy, including service level recommendations for approval by the AHJ.

4.3 Incident Types and Frequency Analysis

Fire and rescue services typically have access to large amounts of incident and response data. Incident data can be used and reported for several purposes. Incident type and frequency data are used to analyze department activity levels and identify trends in demand for fire services. The breadth of services provided by modern fire services is often surprising. Fire departments have evolved from responding primarily to fires to responding to a broad range of public service and emergency incidents, becoming a critical component of a community's social safety net.

Incidents are commonly evaluated at two different times during an emergency. First, the 911 call taker evaluates the information provided by the caller to categorize the incident to be dispatched. This category can determine the initial number of resources assigned to the incident, including firefighters, apparatus, and automatic aid from neighboring fire stations. A second categorization occurs after the incident is resolved, based on what was occurring on the scene or the actions taken. In Ontario, Incident Response Types must be reported through the provincial Standard Incident Reporting (SIR) system using predetermined codes and reporting procedures. These SIR Response Types are further grouped into common descriptors and subtotaled to provide aggregated fire data provincially. These types and categories are particularly useful when examining compliance with NFPA standards, the total number of resources on scene, and community risks.

Five years of SIR response data provided by the MFRS was analyzed. The data includes all incidents from January 2020 to December 2024. Incident data is aggregated into broader categories and more specific incident categories. For example, all types of fire incidents, including structural, vehicle, and non-structural/garbage fires, are combined into a single category. This differentiation is made to provide varying levels of information, as stakeholder reporting, and information needs vary depending on their level of interest in MFRS activities.

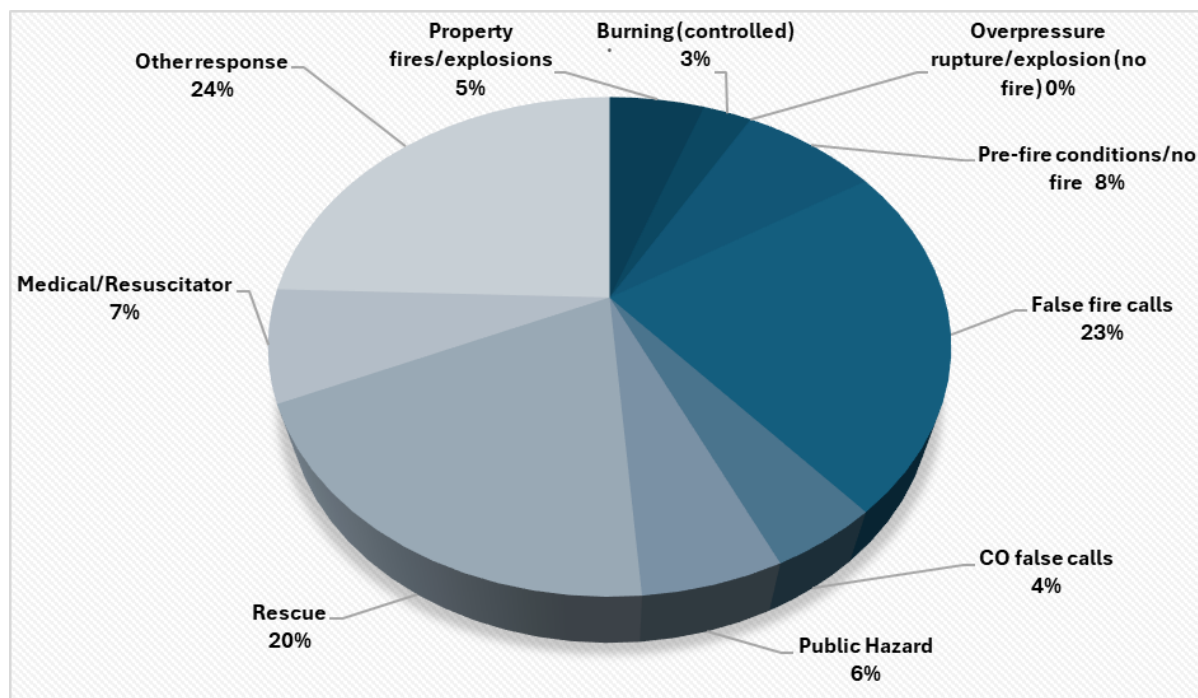
4.3.1 Unique Incidents

Table 30 identifies all unique incidents that occurred within the municipal boundary, categorized by their SIR Response Type. This analysis provides an overview of the types of emergencies that the fire department responded to, along with the reported incident types and their respective frequencies. It excludes mutual aid responses which fall outside the Milton municipal boundary.

Table 30: Unique Response Types within Milton (2019 to 2023)

Incident Subcategory	2020	2021	2022	2023	2024	Total	Total %
Property fires/explosions	113	122	133	130	111	609	5.42%
Burning (controlled)	85	57	46	65	58	311	2.77%
Overpressure rupture/explosion (no fire)	0	1	0	1	2	4	0.04%
Pre-fire conditions/no fire	81	88	182	224	296	871	7.76%
False fire calls	554	630	587	458	324	2553	22.74%
CO false calls	116	137	88	72	81	494	4.40%
Public Hazard	132	120	163	92	125	632	5.63%
Rescue	309	356	510	505	514	2194	19.54%
Medical/Resuscitator	80	121	120	174	318	813	7.24%
Other response	339	306	472	661	967	2745	24.45%
Total	1,809	1,938	2,301	2,382	2,796	11226	100%

Figure 9: Percent of Incidents by Subcategory (2020 to 2024)



4.3.2 Unique Incidents by Sub-Category

Table 31 identifies all unique incidents occurring within the municipal boundary listed by sub-category. This analysis provides a specific overview of the types of emergencies that the fire department was dispatched to and their respective frequency.

Table 31: Incidents by sub-categories (2020-2024)

Call Type	2020	2021	2022	2023	2024	Total	Total %
A. Structure Fire	33	33	45	39	22	172	1.53%
B. Other Fire	4	7	3	5	1	20	0.18%
C. Vehicle Fire	29	24	32	33	45	163	1.45%
D. No Loss Fire	7	8	9	6	10	40	0.36%
E. No Loss Fire (Excluded)	40	50	44	47	33	214	1.91%
F. Non-Fire Call	1,696	1,816	2,168	2,252	2,685	10,617	94.58%
Total	1,809	1,938	2,301	2,382	2,796	11,226	100%
Non-Fire Call Breakdown							
Burning Controlled	85	57	46	65	58	311	2.77%
Authorized controlled burning complaint	31	20	17	21	12	101	32.48%
Open Air Burning/unauthorized controlled burning	54	37	29	44	46	210	67.52%
CO False Fire Calls	116	137	88	72	81	494	4.40%
CO false alarm - equipment malfunction	88	97	56	48	52	341	69.03%
CO false alarm - perceived emergency	28	40	32	24	29	153	30.97%
False Fire Calls	554	630	587	458	324	2553	22.74%
Alarm System Equipment Accidental Activation	161	163	130	106	59	619	24.25%
Alarm System Equipment Malfunction	197	201	204	172	132	906	35.49%
Human - Accidental	41	82	90	72	57	342	13.40%
Human - Malicious	10	14	42	22	11	99	3.88%
Human - Perceived Emergency	105	100	79	30	17	331	12.97%
Other False Fire Call	40	70	42	56	48	256	10.03%

4.3.3 Unique Incidents – Medical/Resuscitator Calls

Table 32 identifies all medical/resuscitator incidents occurring within the municipal boundary listed by sub-category. This analysis provides a specific overview of the types of medical/resuscitator emergencies that the fire department was dispatched to and their respective frequency.

Table 32: Non-Fire Call Breakdown by Sub-Category - Medical (2020 to 2024)

Call Type	2020	2021	2022	2023	2024	Total	Total %
Medical/Resuscitator Call	80	121	120	174	318	813	7.24%
Accident or illness	3	11	6	11	53	84	10.33%
Alcohol or Drug Related	3	2	1	8	13	27	3.32%
Asphyxia, respiratory Condition	3	0	0	2	6	11	1.35%
Burns	1	0	2	3	3	9	1.11%
Chest Pains or Suspected Heart Attack	1	0	2	2	4	9	1.11%
CPR administered	21	25	17	33	24	120	14.76%
Defibrillator Used	1	1	3	2	4	11	1.35%
Electric Shock	0	1	0	0	1	2	0.25%
Medical aid not required on arrival	3	7	10	24	67	111	13.65%
Medical Resuscitator call false alarm	2	3	1	2	4	12	1.48%
Medical Resuscitator call no action required	15	20	26	32	49	142	17.47%
Other Medical Resuscitator Call	7	11	12	28	55	113	13.90%
Oxygen Administered	1	1	3	3	8	16	1.97%
Seizure	1	1	0	2	1	5	0.62%
Traumatic Shock	0	0	1	0	1	2	0.25%
Vital Signs Absent, DOA	18	38	36	22	25	139	17.10%

4.3.4 Unique Incidents – Other Response/Overpressure & Rupture Calls

Table 33 identifies all other response incidents occurring within the municipal boundary listed by sub-category. This analysis provides a specific overview of the types of other emergencies and overpressure/rupture incidents that the fire department was dispatched to and their respective frequency.

Table 33: Non-Fire Call Breakdown by Sub-Category – Other Response/Overpressure (2020 to 2024)

Call Type	2020	2021	2022	2023	2024	Total	Total %
Other Response	339	306	472	661	967	2745	24.45%
Assistance not required by other agencies	73	75	83	90	113	434	15.81%
Assist other agencies	21	33	16	27	44	141	5.14%
Assistance to Police	14	13	16	16	14	73	2.66%
Assisting other Fire Department (Automatic Aid)	3	2	1	0	0	6	0.22%
Assisting other Fire Department (Mutual Aid)	0	4	2	0	2	8	0.29%
Assisting other Fire Department (Other)	0	1	0	0	1	2	0.07%
Cancelled on Route	42	30	42	27	57	198	7.21%
Illegal Grow Operation (no fire)	0	0	0	1	0	1	0.04%
Incident Not Found	31	22	33	26	50	162	5.89%
Other Public Service	91	62	216	378	511	1258	45.71%
Other Response	64	64	63	96	175	462	16.79%
Overpressure Rupture/explosion (no fire)	0	1	0	1	2	4	0.04%
Overpressure Rupture (no fire-steam boilers, hot water)	0	1	0	1	1	3	75.0%
Overpressure-gas pipe (no fire)	0	0	0	0	1	1	25.0%

4.3.5 Unique Incidents – Pre-Fire Conditions/Public Hazard Calls

Table 34 identifies all pre-fire conditions and public hazard incidents occurring within the municipal boundary listed by sub-category. This analysis provides a specific overview of the types of pre-fire conditions and public hazard emergencies that the fire department was dispatched to and their respective frequency.

Table 34: Non-Fire Call Breakdown by Sub-Category – Pre-Fire Condition/Public Hazard (2020 to 2024)

Call Type	2020	2021	2022	2023	2024	Total	Total %
Pre-Fire Conditions (no fire)	81	88	182	224	296	871	7.76%
Fireworks (no fire)	8	0	2	0	0	10	1.15%
Lightning (no fire)	1	0	1	1	0	3	0.34%
Other (cooking, toasting, smoke, steam)	18	25	92	150	200	485	55.68%
Other pre-fire conditions (no fire)	16	27	35	28	31	137	15.73%
Overheat (no fire- mechanical devices)	23	20	30	16	43	132	15.15%
Pot on Stove	15	16	22	29	22	104	11.94%
Public Hazard	132	120	163	92	125	632	5.63%
CO incident, CO present	47	33	61	42	54	237	37.68%
Gas Leak - Miscellaneous	1	0	0	0	2	3	0.48%
Gas Leak - Natural Gas	15	17	19	11	9	71	11.23%
Gas Leak - Propane	2	3	1	1	0	7	1.11%
Gas Leak - Refrigeration	0	0	0	1	1	2	0.32%
Other Public Hazard	9	8	14	13	12	56	8.86%
Power Lines Down, Arcing	24	24	23	7	14	92	14.56%
Public Hazard call false alarm	10	6	6	1	3	26	4.11%
Public Hazard no action required	8	3	4	6	11	32	5.06%
Ruptured Water, Steam Pipe	8	17	25	5	10	65	10.28%
Spill- Gasoline or Fuel	6	7	7	3	5	28	4.43%
Spill - Miscellaneous	2	2	3	1	4	12	1.90%
Spill - Toxic Chemical	0	0	0	1	0	1	0.16%

4.3.6 Unique Incidents – Rescue Calls

Table 35 identifies all rescue incidents occurring within the municipal boundary listed by sub-category. This analysis provides a specific overview of the types of rescue emergencies that the fire department was dispatched to and their respective frequency.

Table 35: Non-Fire Call Breakdown by Sub-Category - Rescue (2020 to 2024)

Call Type	2020	2021	2022	2023	2024	Total	Total %
Rescue	309	356	510	505	514	2194	19.54%
Animal Rescue	2	3	3	0	2	10	0.46%
Commercial Industrial Accident	0	0	0	0	4	4	0.18%
High Angle Rescue	0	1	3	2	0	6	0.27%
Home/Residential Accident	1	3	2	1	2	9	0.41%
Low Angle Rescue	3	2	4	0	1	10	0.46%
Other Rescue	0	1	6	6	5	18	0.82%
Persons Trapped in Elevator	11	13	12	13	17	66	3.01%
Rescue False Alarm	0	1	0	1	0	2	0.09%
Rescue No Action Required	5	11	10	3	2	31	1.41%
Vehicle Collision	269	312	452	461	461	1955	89.11%
Vehicle Extrication	16	8	18	16	18	76	3.46%
Water Ice Rescue	1	0	0	0	0	1	0.05%
Water Rescue	1	1	0	2	2	6	0.27%

4.3.7 Incident Types Analysis

The following observations regarding unique incident types within Milton were noted.

Call Volume Trend:

- There is a consistent year-over-year increase in total incidents, with a 55.7% growth from 2020 (1,809) to 2024 (2,816).

Top 3 Incident Types:

- Other response (24.4%) – largest single category, nearly 1 in 4 calls.
- False fire calls (22.7%) – high volume, suggesting need for continued public education or alarm system monitoring.
- Rescue (19.5%) – steady increase, may reflect urban growth or aging demographics.

Emerging Trends:

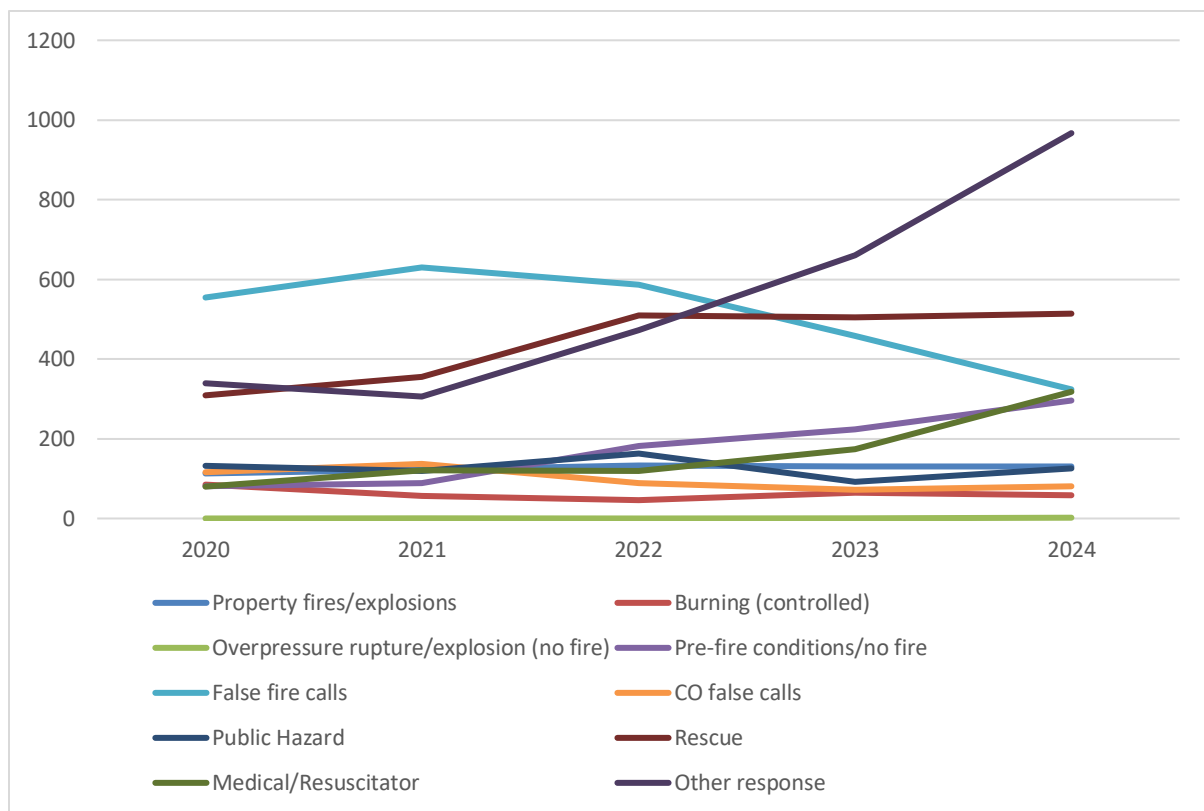
- Pre-fire conditions/no fire jumped significantly between 2021 (88) and 2024 (296), a 236% increase, potentially reflecting better detection/reporting or changes in risk.
- Medical/resuscitator calls more than tripled from 2020 to 2024, showing growing integration with medical response or changing community health needs.

Key Observations:

- False Fire Calls totaled 2,553 incidents, with the largest contributors being alarm equipment malfunctions (906 calls, 35.5%) and accidental activations (619 calls, 24.2%), while human-related causes, including accidental (342), perceived emergency (331), and malicious (99), accounted for over 30% combined, emphasizing the need for targeted public education and improved alarm maintenance practices.
- Rescue-related incidents totaled 2,194 calls, with vehicle collisions (89%) as the dominant subcategory, followed by vehicle extrications (3.5%) and elevator rescues (3%), while all other specialized rescues (e.g., water, high angle, industrial) comprised less than 5% collectively.
- Other Response and Overpressure incidents totaled 2,753 calls, with the majority stemming from public service calls (1,258 calls), non-required assistance (434), and cancelled enroute (198), while actual overpressure events were extremely rare (8 total), indicating most calls were non-emergency support or low-acuity service demands.
- Pre-Fire Conditions and Public Hazard incidents totaled 1,503 calls, with the leading subcategories being cooking-related smoke/steam (485 calls), CO presence (237 calls), and mechanical overheating (132 calls), while gas leaks, power line issues, and pot-on-stove incidents made up the remainder, highlighting a strong need for public education and proactive hazard mitigation.

- Medical/Resuscitator incidents totaled 813 calls, with key subcategories including CPR administered (120 calls), DOA/Vital Signs Absent (139), and a rising number of non-actionable calls (265 combined), indicating a growing medical response role for the fire service, often involving high-acuity cases, and increasing instances where no intervention was required.

Figure 10: Unique Incidents by Incident Type (2020 to 2024)



4.4 Incident Frequency Analysis

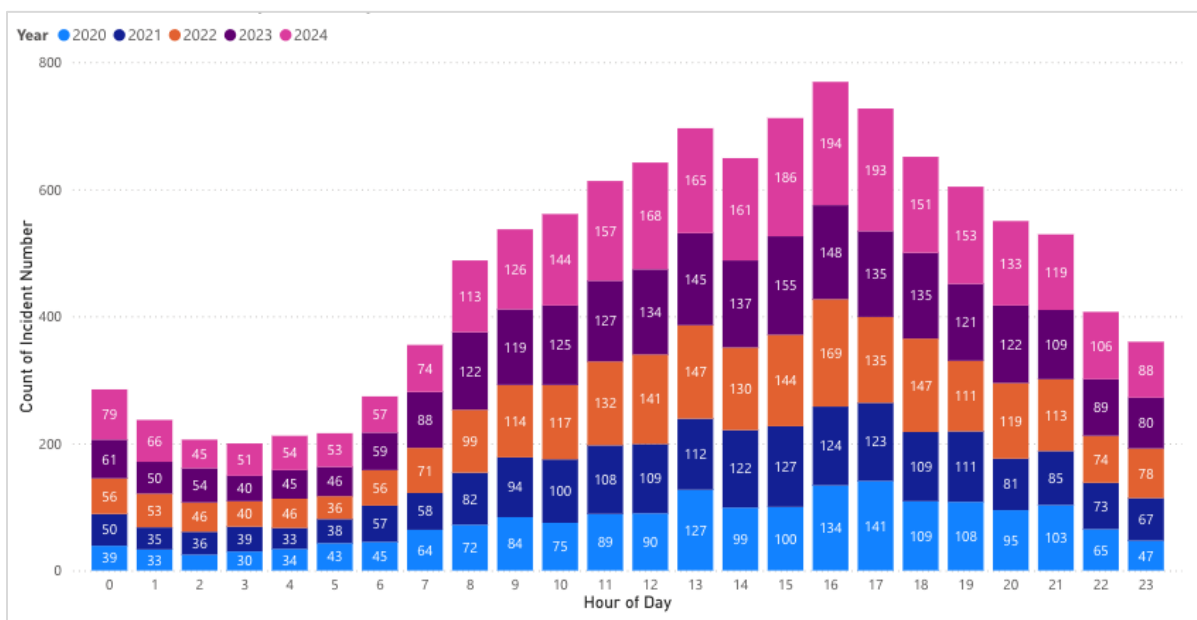
Analyzing the frequency of fire incidents by time of day and day of the week is essential for optimizing operational readiness and improving public safety outcomes. Understanding when incidents most commonly occur enables fire services to strategically allocate resources and staff to meet demand. For instance, identifying peak periods, such as evenings or weekends, allows departments to adjust shift schedules, ensure adequate apparatus availability, and reduce response times. This analysis also supports data-driven decisions around pre-positioning resources in anticipation of high-call volumes, enhancing the department's ability to respond quickly and effectively.

Beyond operations, temporal analysis of fire incidents informs prevention and education strategies. Recognizing patterns, such as increased residential fires during early morning cooking hours or late-night fires linked to smoking or alcohol use, enables targeted outreach efforts tailored to specific times and behaviors. It also contributes to predictive risk modeling, helping identify periods of elevated danger and proactively reduce fire occurrence. Moreover, data on timing trends can be used to justify budget requests, inform policy changes, and guide long-term planning, making it a critical component of both reactive and preventative fire service strategies.

4.4.1 Incidents by Time of Day

The time incidents occur is useful in identifying periods of peak and lower demand for services. Typically, demand for emergency services is lowest in the early hours of the morning. The horizontal axis in Figure 11 begins with 0 hours (12 a.m. – 1 a.m.) and ends at 23 hours (11 p.m. to 12 p.m.).

Figure 11: Incidents by Time of Day (2020 to 2024)



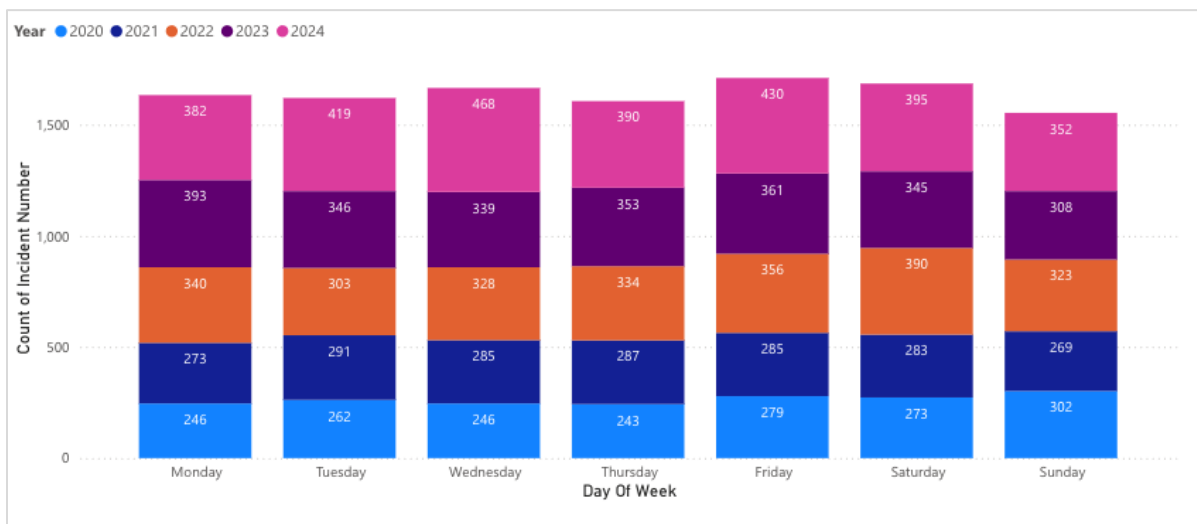
The following observations regarding the time incidents occurred were noted:

- Incident volume begins to significantly increase from 07:00, with a sharp rise from 08:00 to 12:00, suggesting increased activity as the community becomes more active during work and school hours.
- The busiest period for incidents is between 12:00 (noon) and 18:00, peaking at 16:00, with the highest overall total count.
- The quietest time for incidents is between 01:00 and 06:00.
- The number of incidents plateaued between 1 p.m. and 5 p.m.

4.4.2 Incidents by Day of the Week

Analyzing the frequency of incidents on different days can reveal patterns that may indicate periods of increased demand or potential strain on MFRS. Figure 12 presents the incident data from 2020 to 2024.

Figure 12: Incidents by Day of the Week (2020 to 2024)



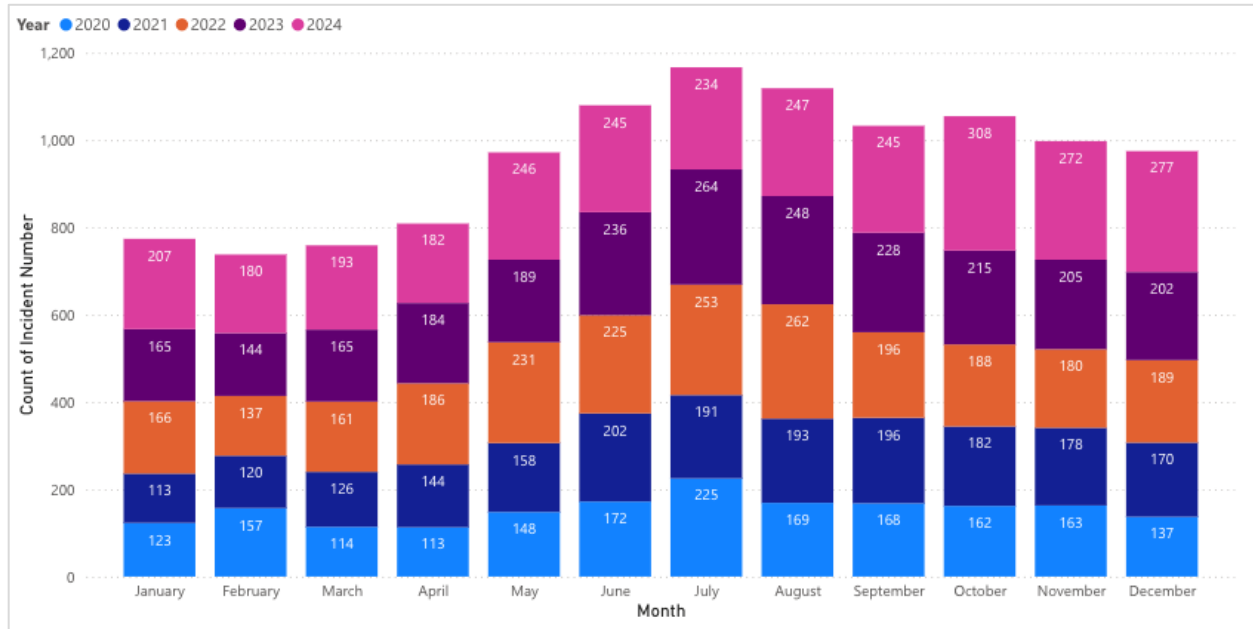
The following observations were noted in service demands for different days of the week:

- Incident counts are balanced Monday through Friday, with only slight variations, implying a steady operational demand throughout the workweek.
- Friday has the highest total incident count, consistently strong across all five years. This may reflect a combination of end-of-week activity, increased traffic, social events, and workplace incidents.
- Sunday shows the lowest incident volume, particularly in 2021 and 2023.

4.4.3 Incidents by Month of the Year

Understanding which months see higher or lower incident volumes can help the MFRS optimize resource allocation and preparedness. Figure 13 presents the incident data from 2020 to 2024.

Figure 13: Incidents by Month of the Year (2020 to 2024)



The following observations were noted in service demands for different months of the year:

- July and August consistently show the highest number of incidents, with totals surpassing 1,000 in 2023 and 2024. This reflects increased outdoor activities, travel, and higher risk of fire-related or medical incidents during the summer months.
- February and March have the lowest incident volumes, with total monthly counts under 750. These months typically involve fewer outdoor activities and more consistent daily routines, reducing incident triggers.
- October through December remains moderately active, with counts similar to, or higher than, early spring months, influenced by:
 - Holiday-related incidents.
 - Heating-related calls.
 - Slippery weather conditions.

4.5 Response Performance

The following sections provide an analysis of the response performance of MFRS. The response performance goals applied in the analysis are identified in the NFPA 1710 standard. Five years of consistent response data provided by MFRS were analyzed, covering all incidents from January 2020 to December 2024. Incident data is aggregated into broader categories and more specific incident categories. For example, all types of fire incidents, including structural, vehicle, and non-structural/garbage fires, are combined into a single category. This differentiation is made to provide varying levels of information, as stakeholder reporting, and information needs vary depending on their level of interest in MFRS activities.

4.5.1 Intervention Time

Total intervention time is the elapsed time between the incident occurring and when incident management begins. This includes the discovery of the incident and the initiation of the emergency response system, typically by calling 911. From a community perspective, this time segment can be partially managed by implementing cyclical life-safety system inspections and promoting residential fire alarms and sprinkler systems.

Once the 911 call is made, the emergency response system is engaged to manage the incident and minimize its impact. Simplified, the system is composed of an emergency dispatching center and the first responding agency. Although many of the requests for service may not require urgent intervention, when it does, the main purpose of this system is to respond and manage the incident as quickly and safely as possible. As a result, the time taken to gather relevant caller and incident information (alarm processing time), notify first responders, prepare them for response (assembly time), and drive to the incident (travel time) are all critical elements of an effective response. These time segments are the focus of this section and are key indicators of total response time performance.

Total response time is the best indicator of how the entire system is functioning. It also reflects the experience of the person making the 911 call. System performance can be managed and improved by implementing best practices and supporting technologies. As a result, total response time performance should be monitored and reported to the authority having jurisdiction (AHJ) regularly. The causes of significant changes in response time performance should be identified and discussed with the AHJ.

Incident management time is variable and depends on the type of incident and the resources required to manage it safely. Fire department resource availability is determined by the concentration (how many and what types of resources there are in one station) and distribution (where those resources are located relative to the incident) of fire department equipment and firefighters. Resource requirements are based on community risks.

An adequately resourced response system should provide an effective response force (ERF) to safely manage commonly known risks as effectively and efficiently as possible. It is important to note that in rural response zones, travel times are inherently longer due to distance and limited road networks, while the overall call volume is typically lower than in urban and suburban areas. This creates a different service delivery dynamic, where longer travel times must be factored into planning, and response strategies may require adaptation to ensure that life safety and property conservation objectives are achieved.

Figure 14 provides an overview of the incident intervention timeline from NFPA 1710. The definitions and descriptions of the actions taken in each time segment are provided below. It should be noted that the continuum will see increased travel times for Rural areas of the municipality.

Figure 14: Incident Intervention Continuum (Urban Area)

Notification	Intervention Time			
Incident Discovery and 911 Call	Alarm Processing	Assembly / Chute Time	Travel Time	Set-up
Time unknown (Time varies with every incident)	64 Seconds	80 Seconds Fire 60 seconds medical	240 Seconds	May vary by event
Time indirectly manageable	Time directly manageable			
Time Values				

Discovery: The time between the start of the emergency incident and when a person or an engineered system detects the incident.

Emergency 911 Call: The time taken to dial 911 and notify the 911 call center of the need for emergency services.

Alarm Answering: This time segment begins when the 911 call is dialed and ends when the call is answered by the 911 call center.

Alarm Processing: This time segment begins when the 911 call is answered and ends with the notification of firefighters. It is the time taken to extract the necessary information from the 911 caller to allow the proper response to be initiated.

Assembly Time: This time segment begins when dispatch notifies the firefighters and ends when the vehicle leaves the station for response. Time is required for firefighters to dress in proper personal protective equipment (PPE) and safely egress the station.

Travel Time: This time segment begins when an apparatus leaves the station or otherwise begins the response to the scene of the emergency and ends when the assigned vehicle arrives on scene and is a function of distance and the speed traveled.

Total Response Time (Common Definition): This time segment begins when the 911 call is answered and ends when the first apparatus capable of commencing incident management arrives.

Total Response Time (NFPA 1710 Definition): This time segment begins when the 911 call is answered and ends when the first apparatus capable of commencing incident management arrives and initiates action to control the incident. Identified as Intervention Time in Figure 14.

Setup Time: The time it takes (on-site) to evaluate the necessary actions, position the required resources, and commence the intervention. In the case of a fire, completing size-up, assigning the necessary tasks, and deploying resources can provide delays on the scene. A well-trained crew can minimize these delays while providing a safe, successful response.

4.5.2 Performance Standards

Industry best practices for urban and suburban fire services have established performance benchmarks for emergency response that include alarm answering, dispatch processing, crew assembly (or chute time), and travel time. These benchmarks serve as a foundation for developing service level objectives and performance measurement for career-staffed fire departments. In addition to time-based targets, best practices also outline the number of personnel and apparatus required to safely and effectively manage various types of fire, rescue, and medical emergencies.

While industry benchmarks do not prescribe exact standards for total response times of the first arriving apparatus or the full alarm assignment, a commonly accepted interpretation aggregates target performance times for alarm handling, assembly, and travel. This results in an inferred goal of 6 minutes and 39 seconds for the arrival of the first fire suppression unit capable of initiating intervention, and 10 minutes and 39 seconds for the arrival of the full complement of resources needed to safely manage a working structure fire or equivalent emergency, both 90% of the time.

Table 36: Industry Performance Standards

Time Segment	, Industry Benchmarks (90 th Percentile)
Alarm processing	64 seconds
Assembly	80 seconds
Travel (first arriving)	240 seconds (4 minutes)
Travel (full alarm)	480 seconds (8 minutes)
First arriving engine with 4 firefighters	384 seconds (6 minutes, 39 seconds) *
Full alarm assignment with 16 firefighters	624 sec/90 th Percentile*

**These benchmarks are derived from the sum of the time segments and are widely used as inferred industry targets.*

These timeframes aim to minimize intervention time, which is defined as the elapsed time from when the fire department is notified of an emergency to when effective emergency operations begin at the scene. This is a critical metric in determining the success of a fire service's response capacity. Delays in intervention time may have significant consequences, including:

- Reduced survivability for individuals trapped in fire or medical emergencies.
- Increased property loss or structural damage.
- Higher insurance premiums for property owners.
- Stricter limitations on building design and fire protection requirements.
- Negative impacts on local economic development and business continuity.

In evaluating fire department performance, it is important to assess two core elements: initial response time (first unit on scene capable of initiating intervention) and effective response force (ERF) assembly time, which reflects the department's total capacity to manage larger or escalating incidents. These two metrics serve as key indicators of a department's operational readiness and overall system resilience. The following section analyzes the department's current ability to meet these benchmarks.

4.6 Emergency Response Performance Analysis

The time segments identified in Section 4.6 are recorded by the dispatching service, capturing individual response timestamps throughout an incident. The timestamps are recorded by the dispatching agency and used to compile a complete history for all responding emergency vehicles to every incident.

Examples of typical incident timestamps include:

- Incident begins
- Station or firefighter notification
- Apparatus responding
- Apparatus arrived
- Loss stopped
- Leaving scene
- Returned to station

The response performance analysis for MFRS focuses on emergency responses from 2020 to 2024. The timestamps are used to calculate alarm processing time, assembly time, travel time, and total response time. Emergency response performance information can be used by the fire chief and senior administration for several purposes, including but not limited to:

- Monitoring response efficiency and effectiveness
- Reporting response performance to the community and elected officials
- Evaluating effectiveness and compliance with national and provincial codes
- Evaluating effectiveness and compliance with council policies and local bylaws
- Identifying improvement strategies
- Developing or modifying service level standards
- Planning for future resource needs (operational and capital)

Historically, fire departments typically reported their average performance. Average performance can be misleading as it is only achieved approximately 50% of the time but can be skewed in small data sets with large outliers. Contemporary fire and emergency services report 80th or 90th percentile performance times to provide a more precise representation of response reliability depending on whether they are a volunteer or career fire department.

Emergency response time analyses typically begin with the timestamp identifying the point at which the 911 call is answered by the primary service answering point (PSAP). Halton Regional Police Service (HRPS) is the PSAP. Fire department related calls are then transferred to the MFRS dispatch centre. All requests for service provided by MFRS are dispatched by the communications team within the MFRS dispatch centre. The 911 call time captured by the PSAP was not included in the available data. As a result, all the emergency response time segments in this analysis begin with the timestamp identifying when the alarm processing was started by the MFRS dispatch center.

It should be noted, however, that the reliability of the data provided has proven to be inconsistent due to several factors. These include challenges in distinguishing between full-time and part-time staffed vehicles, as well as inaccuracies in dispatch handling times, which affect both the dispatching and turnout time components of response. In addition, out-of-date dispatching programs and software have further impacted data accuracy and consistency. As a result, while the performance analysis provides important insights, caution should be taken in interpreting the results until data capture and dispatch systems are modernized.

Accordingly, while the subsequent sections have been developed for general review purposes to assist in providing high-level data and identifying trends, they cannot be fully relied upon to provide a precise measure of organizational performance. These results should be interpreted with caution and supplemented with improved data collection practices and modernized dispatching technologies in order to establish a more accurate and reliable baseline for performance monitoring in the future.

4.6.1 Alarm Handling

Alarm handling time is typically the cumulative time taken for alarm answering and alarm processing in the dispatching process. The initial timestamp available for identifying the alarm answering time in the PSAP was not available. Therefore, only alarm processing was analyzed. Alarm processing time begins when the alarm is answered, and call evaluation begins, ending when the fire department is dispatched.

Industry standards state that alarm answering shall be completed within 15 seconds and alarm processing within 64 seconds, both 90% of the time for the highest priority events where significant property loss or imminent threat to life exists. Alarm handling performance is manageable by implementing best practice processes, supporting technologies, and continuous improvement programs.

This benchmark should be monitored to ensure alarm handling is as efficient as possible to achieve optimal total response time performance. However, non-emergency requests for service, identifying rural addressing and remote locations, and callers requiring language translation, TTY, or Text-To-911 services may delay the interrogation time required to gather the appropriate information for first responders. Standards allow for additional time and set a 90-second target for these situations. No data was available to identify these scenarios as part of the analysis.

Table 37 provides a summary of alarm processing times, including analysis at the 90th percentiles and compliance percentage to industry standards for both Fires/Explosions and All Incidents. It should be noted, however, that the reliability of the underlying data is limited due to factors such as outdated dispatching software, inconsistent time-stamping practices, and challenges distinguishing between full-time and part-time staffed vehicles. As a result, while the table highlights performance trends, the results should be considered high-level indicators to guide continuous improvement rather than precise measures of alarm processing performance.

As identified in Section 3, the transition to NG-911, implementation of modernized dispatching software, and the staffing of two dedicated dispatchers on duty are expected to provide significant improvements to both service delivery and data accuracy. These changes will enhance the ability to capture consistent, reliable timestamps, strengthen performance monitoring, and contribute to faster and more effective emergency responses.

Table 37: Alarm Processing Times (90th percentile)

Alarm Processing*	2020	2021	2022	2023	2024	5-Year
False Incidents	174	174	155	121	103	152
Fire / Explosion	161	141	163	160	134	159
Other Responses	205	213	181	181	150	180
Hazardous Materials Responses	176	171	179	195	153	182
Medical	60	82	113	105	92	94
Rescue	97	94	117	126	109	111
All Incidents (90th percentile)	176	171	162	154	131	159
NFPA 64 sec 90th compliance for fire /explosion calls	26%	28%	27%	38%	48%	34%
NFPA 64 sec 90th compliance for all incidents	50%	48%	46%	47%	56%	50%

The following observations regarding alarm processing performance were noted:

- All incident types show a general decline in processing time over the five-year period.
- All incidents (90th percentile) dropped from 176 sec (2020) to 131 sec (2024), a 25% improvement.
- Fire/Explosion incidents improved from 161 sec (2020) to 134 sec (2024).
- False incidents showed a notable improvement, from 174 sec down to 103 sec, a 41% decrease, the most significant improvement among categories.
- Fire/Explosion compliance improved from 26% in 2020 to 48% in 2024.
- All incidents compliance increased from 50% to 56%, peaking in 2024.

4.6.2 Assembly Time

Assembly time is measured from the point of fire department notification until the first responding fire/rescue apparatus has responded. For career staff, assembly time is typically much shorter as it is limited to moving toward the fire engine, putting on their bunker gear, and getting into the vehicle.

Assembly time performance should be monitored and reported to firefighting crews regularly. Best practice benchmarks identify a 90th percentile assembly time standard of 80 seconds for career firefighters, which can be difficult to achieve. Attention to station design, activities within a station, and firefighter awareness can all help to improve performance and optimize response times. Table 38 identifies 90th percentile assembly times for incident types. This analysis is for the first unit enroute to the incident only.

Table 38: Assembly Performance by Incident Type (in seconds) *

Incident Type	2020	2021	2022	2023	2024	5-Year
False Incidents	176	183	174	179	164	175
Fire / Explosion	157	158	159	166	160	160
Other Responses	168	184	176	191	169	176
Hazardous Materials	170	170	190	191	179	183
Medical	115	136	157	144	132	138
Rescue	117	143	145	145	139	142
All Incidents (90 th percentile)	166	173	168	175	161	169
NFPA 1710 - 80 sec 90 th compliance (excluding medical)	25%	17%	21%	15%	18%	19%
NFPA 1710 -60 sec 90 th compliance for medicals	28%	17%	21%	15%	18%	19%

* Medical call turnout is measured at 60 seconds

Table 39 presents the assembly times in seconds for each s platoon from 2020 to 2024, categorized into all incidents with an 80-second target.

Table 39: Assembly time by full-time shifts (in seconds)

Shift	2020	2021	2022	2023	2024	5-Year	% met
Suppression A	154	155	161	159	148	155	20%
Suppression B	193	188	157	172	160	174	17%
Suppression C	155	195	180	198	178	184	15%
Suppression D	149	178	168	178	162	170	20%
Total	169	178	168	178	162	170	18%
% met	24%	17%	20%	15%	17%	18%	

The following key observations regarding assembly time were noted:

Overall Assembly Time Trends (All Incidents):

- The average assembly time (90th percentile) across all incidents is 169 seconds, Times have remained consistently high across all five years, with no significant year-over-year improvement, indicating a systemic issue in assembly speed.
- More than double the best practice benchmark of 80 seconds (non-medical).

Non-medical incidents (target: 80 seconds at 90th percentile):

- Only 15% to 25% of calls met the standard across the years.
- Average compliance: 19% – far below the expected 90th percentile benchmark.

Medical incidents (target: 60 seconds at 90th percentile):

- Similarly low compliance, ranging from 15% to 28%, averaging 19%.

By Shift:

- No shift consistently meets the best practice benchmarks.
- Suppression C is the weakest performer, requiring targeted review of procedures, station readiness, or potential staffing or training deficiencies.
- Wide variations between shifts (up to 30 seconds) suggest inconsistent operational discipline or readiness culture across crews.

Observation #21: Milton Fire & Rescue Services' (MFRS) current assembly time performance significantly exceeds industry-recognized benchmarks for both medical and non-medical incidents. Over the five-year period from 2020 to 2024, the department's 90th percentile assembly time averaged 169 seconds for all incidents, more than double the benchmark of 80 seconds for non-medical emergencies and 60 seconds for medical calls. Across all stations and shifts, compliance with these targets has remained consistently low, with an average of just 18–19% of incidents meeting the expected benchmarks. This indicates systemic delays in personnel readiness, equipment boarding, or procedural consistency, which can undermine overall response performance and operational effectiveness.

It should also be noted that the data available for this analysis lacks strong accuracy due to limitations in dispatch software, reporting systems, and the ability to distinguish between full-time and part-time staffed vehicles. As such, these findings should be considered high-level observations intended to support continuous improvement rather than definitive measures of organizational performance.

Recommendation #21: Identify and implement opportunities to improve assembly time or investigate opportunities (such as new station designs, countdown clocks, etc.) to improve assembly time and implement regular monitoring and reporting of assembly time performance by station, shift, and incident category.

Suggested completion: 12-24 months

Cost: Varies on scope

Strategic Objective: Operations

***Rationale:** Improving assembly time performance is one of the most cost-effective ways to enhance total response time without immediate increases in apparatus or station infrastructure. The wide range in performance across stations and shifts demonstrates that targeted interventions can yield tangible improvements. Factors such as station layout, workflow design, shift culture, turnout gear placement, and situational readiness directly influence assembly times. Incorporating technologies like countdown timers, pre-alert systems, and optimized station design can enhance alert-to-enroute intervals.*

Establishing a formal monitoring and reporting program will also foster accountability and encourage continuous improvement. By tracking performance by station, shift, and incident category, MFRS leadership can identify bottlenecks, tailor training, and recognize high-performing teams. This data should be integrated into regular performance reviews and used to support operational planning, firefighter coaching, and facility upgrades. Ultimately, focusing on assembly time aligns with MFRS's strategic goals of improving response reliability and firefighter effectiveness, particularly as call volumes and community expectation continue to grow.

4.6.3 Travel Time Performance

Travel time is measured from the point a fire/rescue apparatus leaves the fire station until it arrives at the incident address/location. Travel time is a function of the incident's distance from the fire station and the speed traveled to the incident. It can be managed to a certain extent in larger municipalities with multiple demand zones and stations. These larger departments can distribute fire resources in the most optimal response locations in the demand zones.

Travel time should be monitored over time to assess whether additional resources are required in different locations to maintain desired service levels. Industry standards identify a first-arriving travel time performance goal of 240 seconds, 90% of the time, for career fire stations. This standard is most frequently applied to urban and suburban developments. In low-density urban and suburban developments, primarily large lot single residential properties, this travel time performance can be challenging to achieve. MFRS's travel time performance mirrors industry standards. To conduct a travel time analysis, travel time was collected for the first arriving unit that was not a command vehicle and compared across incidents.

Table 40: Travel Performance by incident type- Town-wide (in seconds)

Incident Type	2020	2021	2022	2023	2024	5-Year
False Incidents	517	543	539	445	408	502
Fire / Explosion	701	647	678	648	634	670
Medical	440	382	372	418	420	417
Other Responses	602	632	600	546	545	577
Hazardous Materials	562	607	584	579	477	587
Rescue	678	728	752	664	723	713
All Incident Types	599	622	627	557	545	590

Table 41: Travel Performance by incident type urban area (in seconds)

Incident Type	2020	2021	2022	2023	2024	5-Year
False Incidents	500	571	530	451	406	522
Fire / Explosion	530	567	500	432	406	458
Medical	364	398	454	379	401	440
Other Responses	650	555	604	498	504	530
Hazardous Materials	630	670	458	516	512	546
Rescue	462	568	578	581	452	541
All Incident Types	548	551	540	498	462	517
Percentage met 240 seconds - Fire	55%	41%	49%	46%	53%	50%
Percentage met 240 seconds - All Calls	31%	40%	40%	44%	48%	42%

MFRS met a 4-minute travel time in the Urban areas 39% of the time over a 5-year period. Trending shows that the overall travel time is decreasing year over year. This should continue to be monitored for increases which may be a result of increased demands. These increased demands may occur as growth occurs further out from the responding station, concurrent call load is increasing, requiring apparatus outside of the station zone to respond as the primary unit, or due to growth and corresponding traffic congestion, resulting in longer times to get to the incident.

The following observations regarding travel times in the Urban Area were noted:

Travel times remain well above the best practice travel time benchmark of 240 seconds (4 minutes) across all incident types. The 5-year average for all incidents in the Urban area at the 90th percentile is 517 seconds, which is over double the recommended travel time. Travel times improved in 2023 and 2024 across almost all categories:

- False Incidents dropped from 700s in 2021 to 406s in 2024.
- Fire/Explosion improved slightly from 789s in 2020 to 690s in 2024.
- Rescue times remain high with minimal year-over-year improvement.

There is a positive upward trend in meeting best practice travel time targets, improving from 31% in 2020 to 48% in 2024. However, more than half of incidents still exceed the standard, indicating operational challenges in achieving target response times.

It is important to note that these travel time results are derived from datasets that contain known accuracy limitations, including inconsistent dispatch records, outdated software, and challenges differentiating between full-time and part-time staffed vehicles. As such, these findings should be interpreted as high-level indicators to guide continuous improvement, rather than precise measures of operational performance.

The northwest rural area of Milton is serviced primarily by Station 2, which is staffed by part-time personnel, and by full-time crews from Station 1 and Station 3. In practice, Stations 1 and 3 are the first units to arrive on scene due to the lengthy assembly times for part-time firefighters, which can exceed twelve minutes before apparatus can leave Station 2. Incident volume in this rural section of the municipality is lower than in the urban core. However, given the extended travel times from full-time stations, tactical fire operations in rural settings often shift from an aggressive interior attack to a defensive exterior strategy. This reality underscores the importance of fire prevention, public education, and self-preparedness measures such as working smoke alarms, early detection, and residential escape planning.

4.6.4 Total Response Time

Total response time is measured from the point at which the 911 call is answered to the point at which the first arriving firefighting apparatus arrives. The industry best practice implies a response time performance goal of 384 seconds (excluding alarm answering time) for the first arriving fire apparatus in urban areas (see Section 4.5.2).

Table 42 identifies the total response time for the incident categories. Total response time includes alarm processing, assembly, and travel time segments. Additionally, compliance with the implied industry best practice was measured.

Table 42: 90th Percentile Response Performance (in seconds)

Incident Type	2020	2021	2022	2023	2024	5-Year	%
False Incidents	788	801	781	663	618	756	32%
Fire / Explosion	924	890	944	842	819	890	24%
Medical	583	539	557	628	579	580	52%
Other Responses	846	886	825	797	773	821	17%
Hazardous Materials	834	881	907	798	733	836	13%
Rescue	809	929	938	852	898	895	36%
All Incidents (90 th percentile)	823	851	834	785	770	810	28%
384 second compliance	27%	26%	25%	27%	33%	28%	

Table 43: 90th Percentile Response Performance – Urban area (in seconds)

Incident Type	2020	2021	2022	2023	2024	5-Year
False Incidents	641	625	598	527	506	599
Fire / Explosion	666	707	754	630	537	615
Medical	453	442	416	511	435	454
Other Responses	613	651	647	613	594	615
Hazardous Materials	710	696	556	637	637	649
Rescue	575	593	638	648	491	596
Total	644	627	613	600	573	605
384 second compliance - Fire	49%	56%	43%	44%	47%	52%
384 second compliance - All Calls	44%	49%	49%	50%	58%	51%

The following observations regarding MFRS emergency response performance were noted:

- The total response time at the 90th percentile for the 5-years was 810 seconds (13 minutes, 30 seconds) and only achieved the best practice benchmark 28% of the time, Town wide.
- The total response time (Urban area) at the 90th percentile for the 5-years was 605 seconds (10 minutes, 5 seconds) and only achieved the best practice benchmark 52% of the time town-wide.
- The 90th percentile total response time – Urban area, has shown gradual improvement, dropping from 644 seconds in 2020 to 573 seconds in 2024.
- Medical incidents had the shortest response times, with a 90th percentile of 454 seconds over the 5-year period. due to prioritization and streamlined response.
- Fire/Explosion incidents had the longest response times, with a 90th percentile of 615 seconds over 5-years, indicating these complex emergencies consistently take the most time to reach and manage. This met a 385-second (6-minute, 24-second) standard over 52% of the time.

As a breakdown of total response time, a department should be exploring all categories that contribute to the total response numbers. Examining the breakdown, alarm handling and assembly time is currently not broken down by station and is measured department wide.

Examining crew movements and station layout may reveal slightly higher numbers. When examining the travel time, this is the largest discrepancy and could be related to the distance of calls from the station, traffic congestion experienced, and concurrent call loads requiring units outside the station area to respond to the incident.

4.7 Response Coverage Mapping

This section provides mapping of the response coverage for the Milton Fire & Rescue Services. The methodology used to calculate the theoretical travel time and area coverage was based on the following formula:

Response Time Goal – (90th Percentile Alarm Processing Time + 90th Percentile Assembly Time) = Theoretical Travel Time

For example:

384 seconds (6-minutes, 24 seconds) or 480 seconds (8-minute) - (90th percentile alarm processing time of 83 seconds + 90th percentile assembly time of 82 seconds) = theoretical travel time (in seconds)

The theoretical travel time and road network travel speed data were applied to generate the response area of each station in the geographic information system (GIS) mapping program. Table 44 shows the calculated travel time for the 90th percentile from all stations.

The calculated theoretical travel time using this approach is a conservative calculation. Use of the 90th percentile assembly times to calculate theoretical travel time and corresponding area coverage for the NFPA 384-second standard, as well as an alternative 8-minute response time goal, is highly reliable. Sometimes the 50th percentile times are used; however, the associated assembly times would only be achieved 50% of the time. In other words, the theoretical travel time and area coverage would only be achieved about 50% of the time. Whereas by using the 90th percentile times, the mapped area coverage is smaller but should be achieved 90% of the time and is, therefore, a more reliable representation of response area coverage within a given time. The limiting factor in this analysis is the occurrence of concurrent incidents where a fire apparatus has to travel from a neighboring station to respond.

Table 44: Theoretical Travel Time Calculation- Urban area (in seconds)

Total Response time Goal (secs)	Theoretical Initial Response time goal (secs)	ERF Total Response time goal (secs)	Theoretical ERF Response Goal Travel Time
384	56	624	296
444	116	684	356

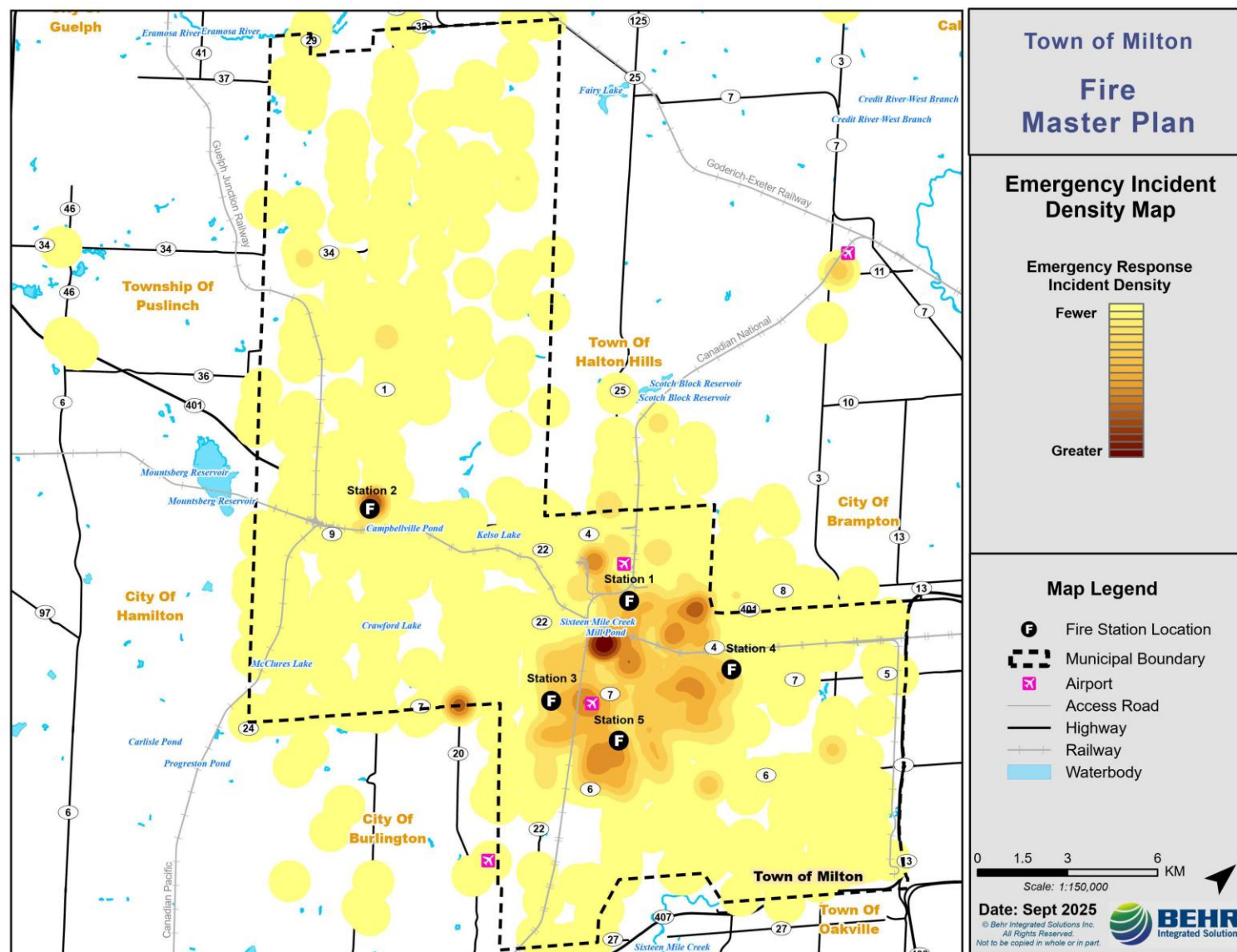
The following maps indicate incident density (heat map), current response performance, and options for consideration when developing response time performance. An incident heat map provides valuable insight into the historical occurrence of incidents, offering a visual representation of zones with higher demand for services. When combined with response coverage mapping, these maps help ensure that areas of highest demand are, whenever possible, situated closest to a fire station.

The following maps offer a comprehensive overview:

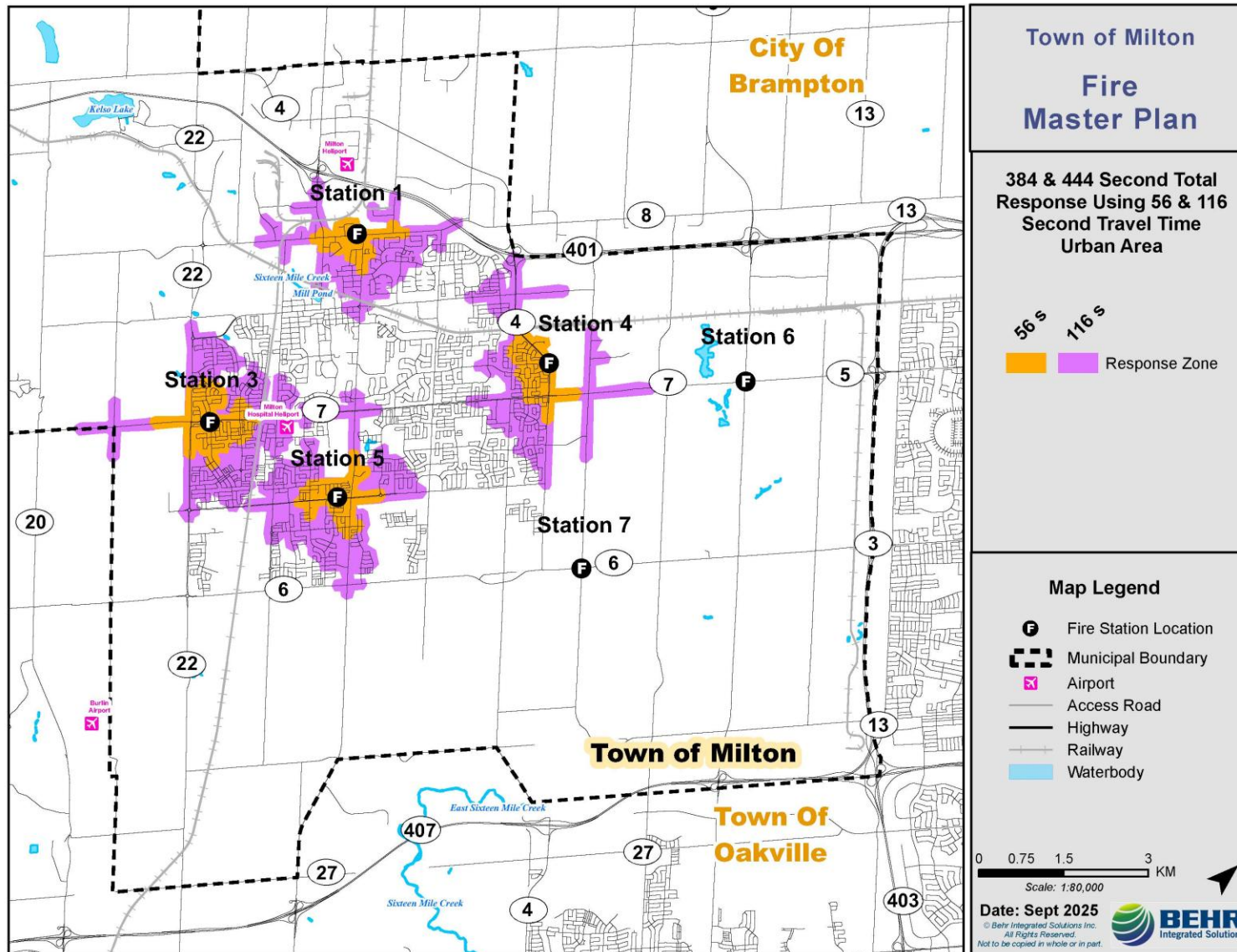
Map 4: Emergency Call Density Map – Visualizes the density of historical incidents.

Map 5: Response Coverage (56 seconds and 116 seconds travel time) – Shows coverage based on the industry best practice recommended total response time and the actual travel time to meet 384 second initial total response time. We have further added 444 second initial total response time to indicate a 5-minute travel time.

Map 4: Emergency Call Density Map



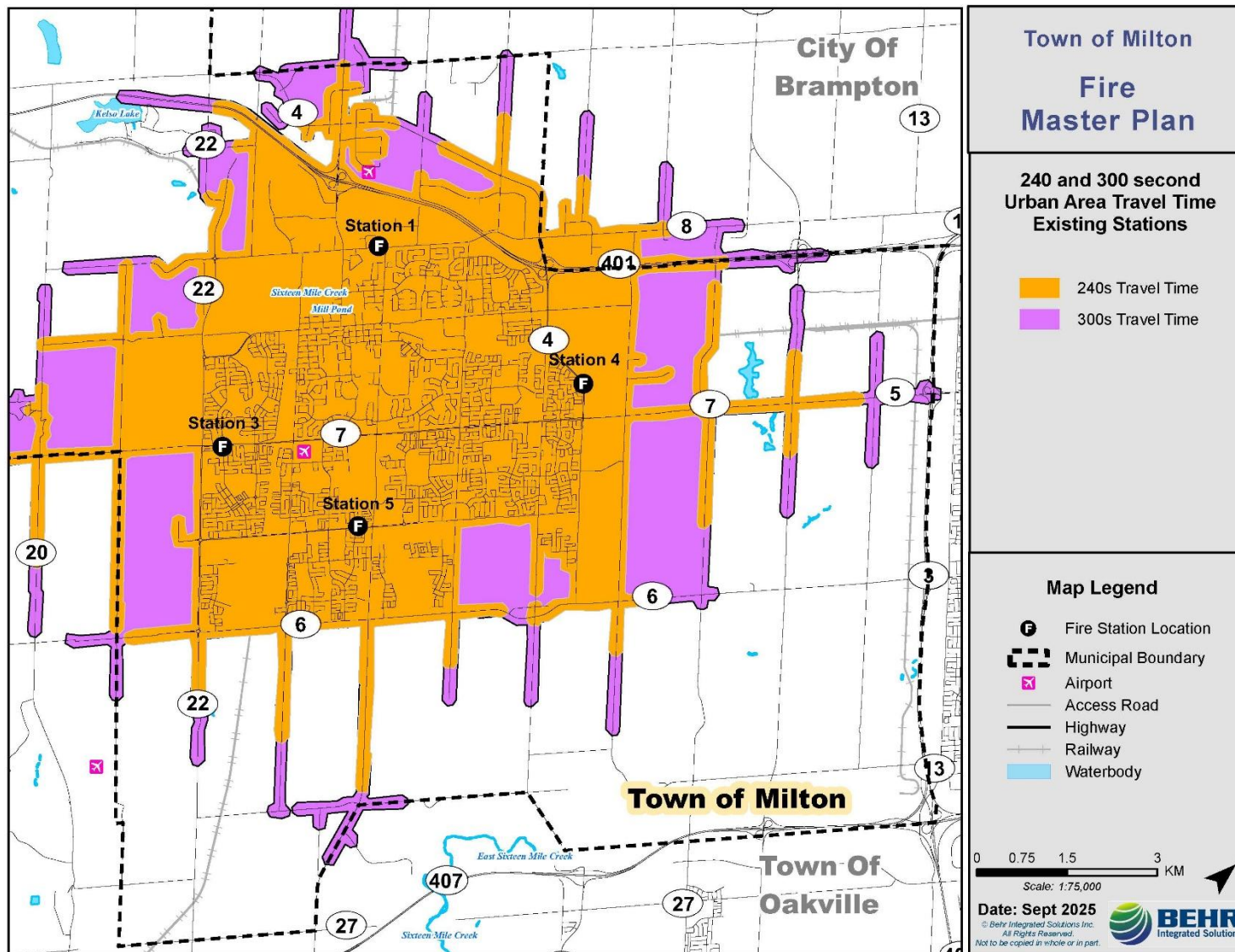
Map 5: Response Coverage Based Upon 56 Seconds and 116 Seconds Travel Time



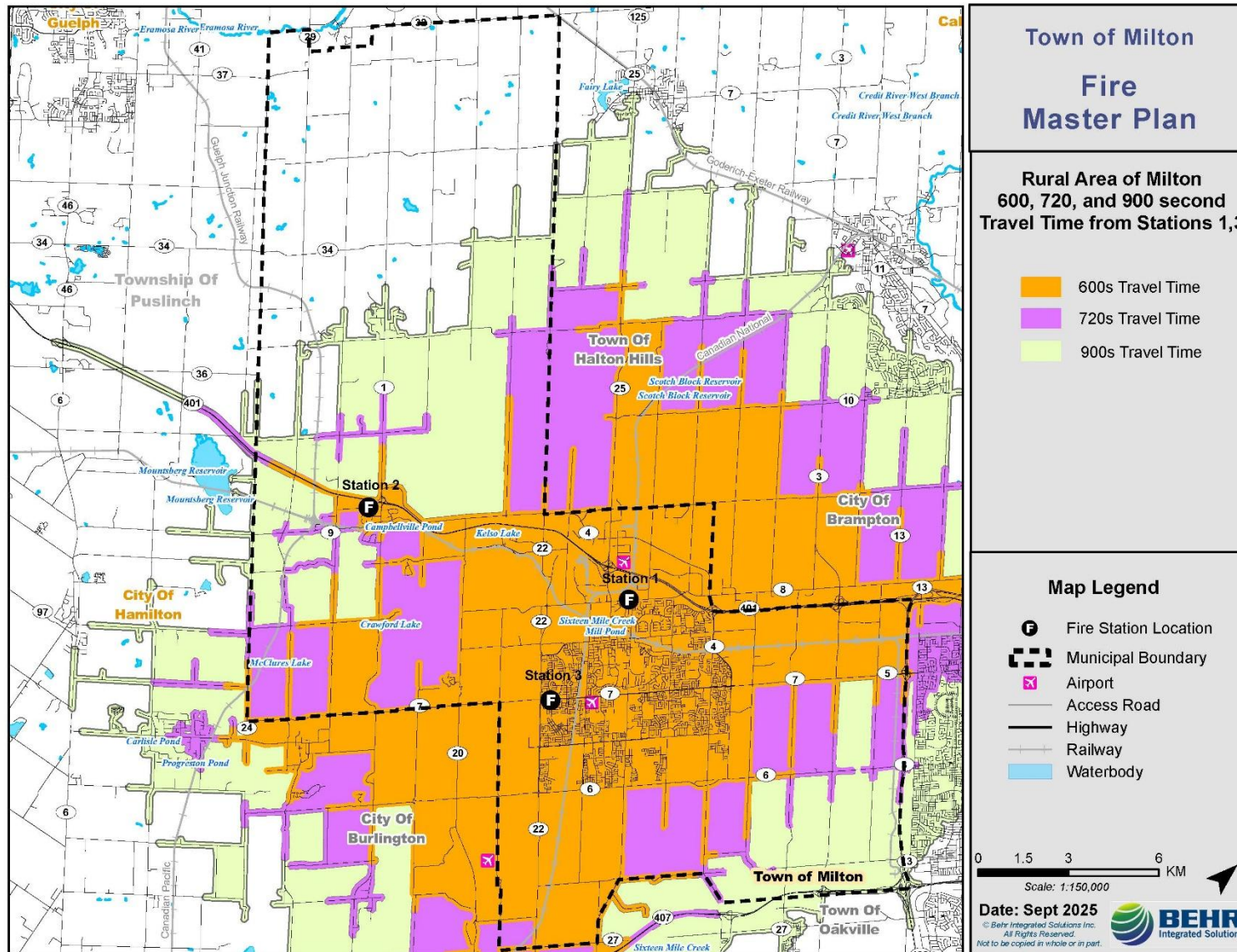
The following maps illustrate the principles of industry best practice recommend travel times at the 90th percentile. Improvements in call processing and assembly times, within the recommended NFPA standards, could enhance the overall response times and extend the response time achievements within each response zone.

- Map 6: 240 and 300 second travel time coverage (urban area).
- Map 7: Rural 600, 720, & 900 second travel time coverage (rural area)

Map 6: 240 & 300 Second Travel Time



Map 7: Rural 600, 720, & 900 second travel time coverage (rural area)



Observations on response coverage based on 240 and 300 second travel time:

Initial unit coverage within 240 seconds (4 min) is reasonable across the built-up core and most established neighbourhoods, forming a continuous footprint west central through south-central Milton. The 300-second (5 min) band extends that reach to the majority of remaining urban neighbourhoods and some greenfield fronts, with residual gaps at a few fringe pockets (notably at the far southeast growth edge near the 407 corridors, scattered eastern fringe blocks beyond Station 5's first-due grid). Physical barriers (rail lines and Hwy 401 interchanges) create local "shadow" areas in the 4-minute band that are picked up by the 5-minute band.

Estimated Urban Coverage (Existing Stations 1,3,4, & 5)

- ≤240 s (4 min): ~71% of the urban area
- ≤300 s (5 min): ~76% of the urban area

Observations on response coverage based on 600, 720, and 900 second travel time (rural area):

Travel time modeling for Stations 1 and 3 shows that the 600-second (10-minute) envelope provides only limited penetration into the northwest rural area. Coverage from Station 3 reaches portions of the Campbellville area, but much of the surrounding agricultural and residential land lies outside this range. The limited reach of the 600-second zone highlights that few rural residents benefit from initial unit arrival within the benchmarked 10-minute response time.

At the 720-second (12-minute) interval, coverage improves, extending deeper into the northwest and capturing additional hamlets and rural settlements. Station 3 provides the most meaningful contribution in this band, with the capacity to reach north of Campbellville and toward the Brookville community (Guelph Line and 15 Sideroad). Even so, areas further north and west remain outside of effective 12-minute coverage, particularly where road access is constrained by natural features, rail lines, or Highway 401.

The 900-second (15-minute) travel envelope represents the most consistent reach for full-time crews into the northwest. Within this window, much of the Brookville area and surrounding agricultural properties are covered, though responses north of Brookville and toward Milton's northern boundary extend beyond 15 minutes. This aligns with industry standards for rural response expectations but limits the ability to conduct offensive operations upon arrival.

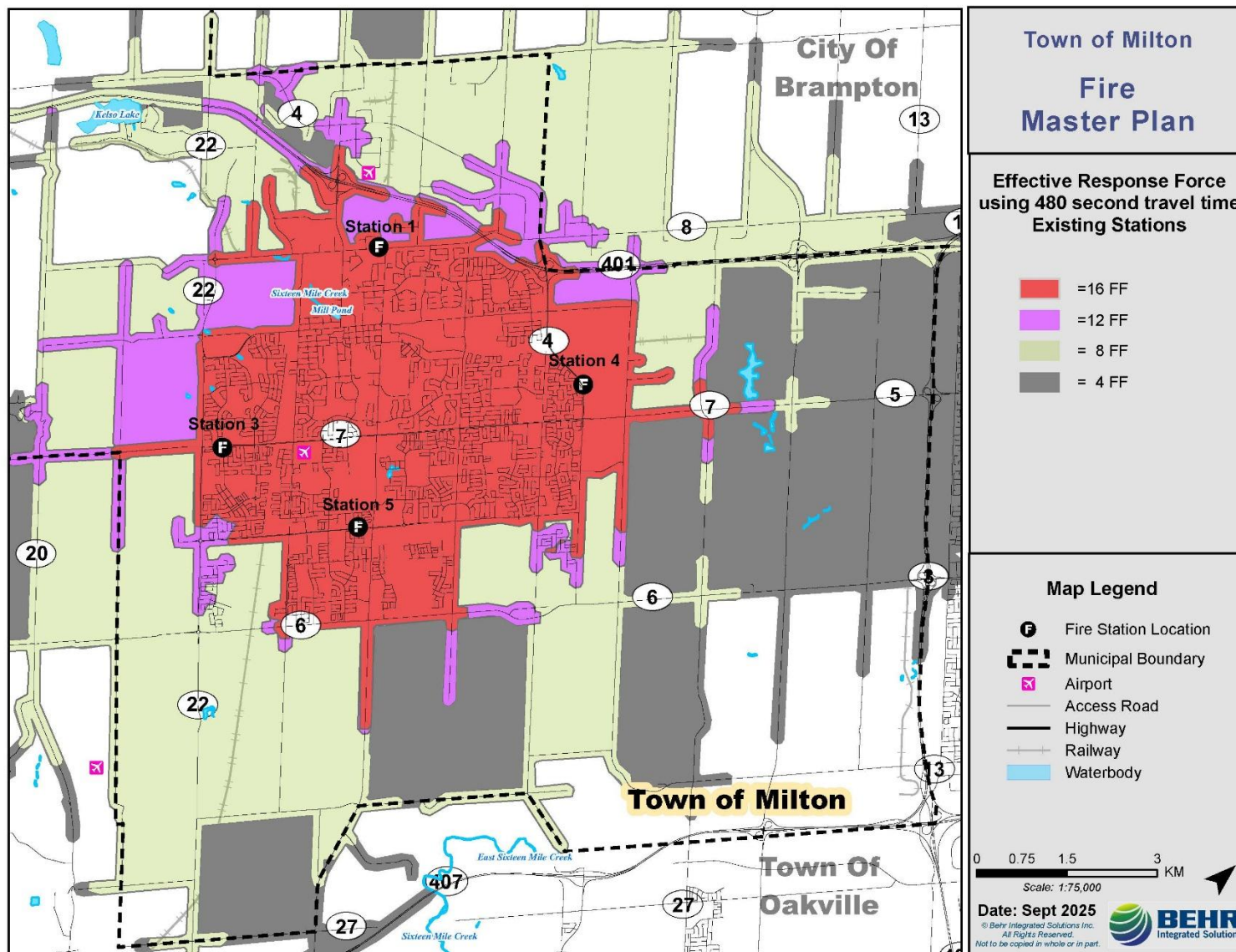
Combined with the absence of reliable hydrant infrastructure, rural firefighting is heavily dependent on tanker shuttle operations and water trucking. These realities emphasize the need for continued investment in fire prevention programming, water supply planning, and mutual aid support to mitigate the higher risks posed by extended travel times in Milton's rural northwest.

4.8 Effective Response Force

This section provides further explanation on the importance of assembling an effective response force (ERF) comprising adequate firefighters and equipment to manage emergency incidents safely and effectively.

ERF standards are based on fire response research completed by organizations such as NFPA and the National Institute of Standards and Technology (NIST). These standards are established to ensure adequate resources are available to complete critical tasks in a safe and timely manner. NIST research identified over 22 essential fire ground tasks at a typical single-family house fire. Ideally, other industry best practices suggest a minimum of 16 firefighters, or four companies of four firefighters, are required for a full alarm assignment (17 if an aerial device is used) for a standard residential house fire. These incidents represent the higher probability of all structure fires in the Town.

Map 8: 480 second ERF Response Coverage



Analysis of response performance indicates that while the central urban core of the Town of Milton is currently able to achieve an Effective Response Force (ERF) of 16 firefighters (4 apparatus) within the targeted 480-second (8-minute) travel time, this level of performance is not achievable across the broader municipality. In fringe areas immediately surrounding the central core, the system is able to assemble 3 apparatus (12 firefighters) within the same 8-minute benchmark. However, across most of the remaining urban and rural areas, the current station distribution model, which prioritizes geographic coverage rather than ERF overlap, limits the ability to meet this response objective without reliance on delayed secondary units or part time firefighters.

Using the 480-second travel-time maps, ERF coverage across the urban area increases materially with Stations 6 and 7. Stations 1,3,4, & 5 (existing): the urban area can assemble:

- 8 ff (≈2 companies) 45-50%
- 12 ff in ~20–25%
- 16 ff in ~8–12% (largely the central core)
- 20 ff in ≈ 0%
- 24 ff ≈ 0%
- Fringe growth areas generally top out at 8–12 ff

Current performance metrics suggest that achieving the ERF benchmark often necessitates the response of apparatus from a minimum of 4 separate stations, which introduces added travel time and system stress, particularly during concurrent incidents or when units are committed to other calls. Improvements in alarm handling and assembly times may marginally expand the area of coverage that meets the 8-minute ERF standard, but systemic limitations remain due to station spacing, staffing levels, and reliance on part-time staffing.

Importantly, higher-risk or complex incidents, such as high-rise fires or industrial fires, exceed the resource requirements of standard ERF deployments and require additional staffing. These incidents often require the utilization of paid-on-call staff from Stations 1, 2, and 3, which introduces further delays beyond the 8-minute ERF benchmark, and in some cases, pushes the full response time to over 10 minutes. This lag compromises intervention timelines and potentially impacts fire containment, occupant survivability, and responder safety. Adjustments to critical tasking procedures, part time firefighter response expectations, and the development of policy and operational guidelines to reflect realistic ERF performance under Milton's composite model are further explored in Section 4.9.

4.9 Critical Task Analysis

A critical task analysis for common incident types illustrates the resources required to achieve tactical objectives based on resource availability. The rationale for completing a critical task analysis is to identify whether response policies and guidelines align with available resources. In other words, are enough firefighters typically responding to complete the critical tasks on emergency scenes in a safe and timely manner?

However, the optimal number of firefighters is not always available. Response policies and guidelines should identify critical task assignments and tactical objectives based on available resources. The optimal number of firefighters to manage larger and more complex incidents may not be dispatched initially due to the availability of firefighters. As a result, tactical objectives should be scaled to reflect these limitations. For example, an interior fire attack or rescue may not be possible with a single pumper company and a limited water supply. Response policies or guidelines should also identify a contingency plan to call in off-duty firefighters or initiate mutual aid/automatic aid for larger or more complex incidents.

The following tables provide examples of critical task analyses that should be embedded in fire department standard operating guidelines or policies. The purpose of completing a critical task analysis is to establish the ERF response requirements and embed task assignments in standard operating guidelines. The **examples** provided are intended to illustrate leading practices with respect to the ERF required to safely manage commonly occurring emergency incidents. They are provided as a guide and are not intended to specifically represent MFRS response capacity or apparatus.

Table 45: Low Risk: Small Fire (No Exposures): Garbage, Vehicle – Private, Grass, Investigate (External), Monitoring Alarm (W/O Confirmation), Medical

Low Risk Incident	
Command and Safety	1
Driver/ Pump Operator	1
Incident responders	2
Total Personnel	4

Table 46: Moderate Risk: Attached Garage, Single Family Residential (Detached/Duplex)

Moderate Risk Incident	
Command	1
Safety	1
Pump Operator	1
attack line/ search and rescue	6
Water supply	1
Rapid Intervention Crew	3
Ventilation/ Utilities	2
Total Personnel	15

Table 47: Moderate Risk: Motor Vehicle Crash (1-3 Private Vehicles)

MVC	
Command and Safety	1
Driver/ Pump Operator	1
Incident responders	5
Blocker vehicle driver	1
Total Personnel	8

Table 48: Moderate Risk: Technical Rescue

Technical Rescue	
Command	1
Safety	1
Rescue Sector Officer	1
Rescue specialists	7
support	3
Total Personnel	13

Table 49: High Risk: Commercial, Seniors' Home, Industrial, Strip Mall, Mid-Rise Residential

High Risk Incident	
Command	1
Safety	1
Pump Operator	1
Initial Attack Line	2
Back up line	2
Search and rescue	4
Water supply	1
Rapid Intervention Crew	4
Suppression Support	6
Ventilation/ Utilities	4
Total Personnel	26

4.10 Optimizing Station location and Apparatus placement

4.10.1 Station Location

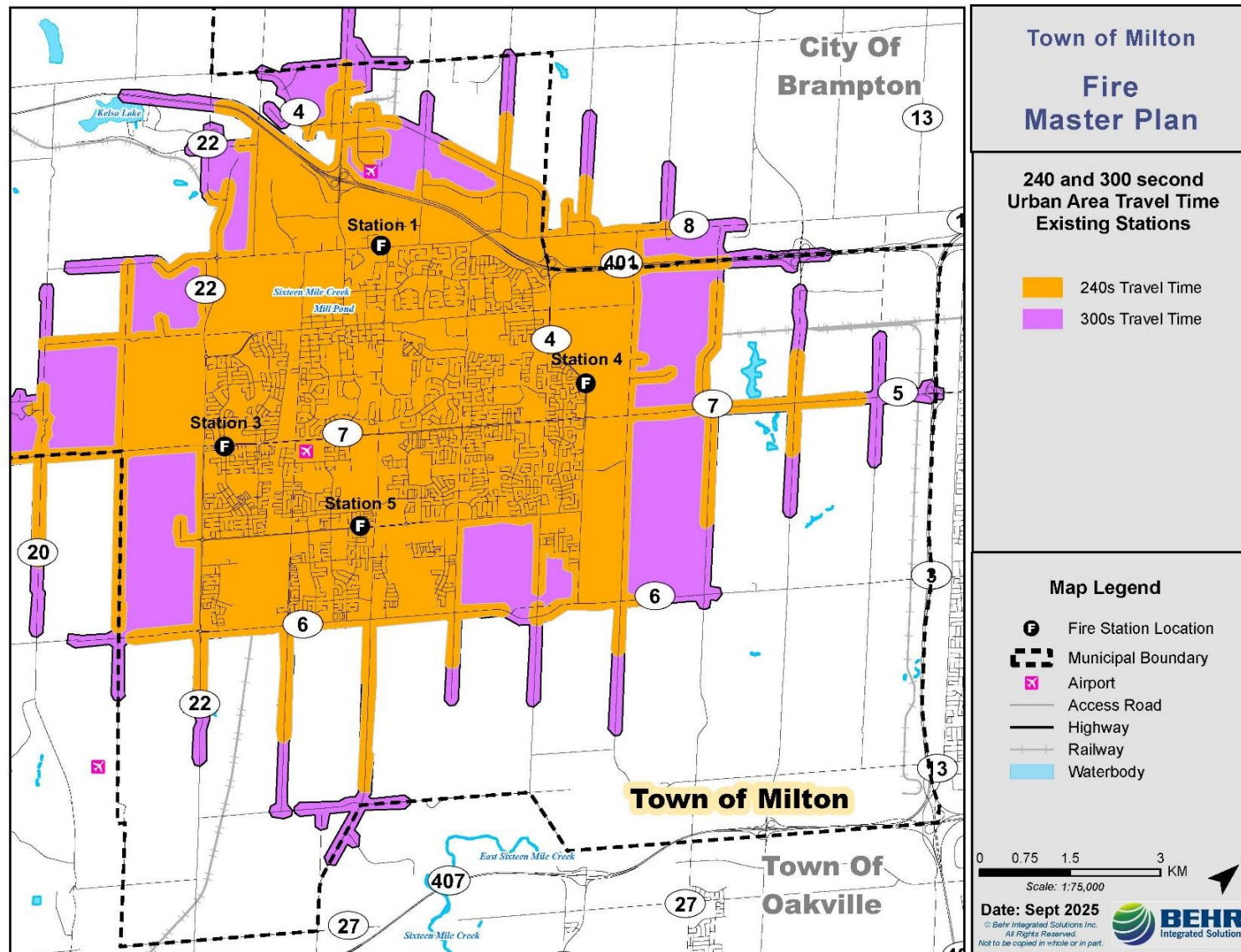
As the Town of Milton continues to grow and expand both horizontally and vertically, the MFRS must explore opportunities to optimize station locations and response performance. The placement of fire stations to provide a quick response time of the first-in unit allows the Town to provide a level of service that meets the principles of response standards. To provide ample coverage, the service must consider many factors, including:

- Future growth nodes – both horizontal and vertical
- Community risks and the areas where the risks are located
- Road networks and increased traffic congestion

The consideration and location for future growth and risk allow the municipality to prepare for the future, ensuring that the infrastructure required is secured, such as lands and necessary funding. Also being considered is the opportunity to further expand on the utilization of the paid-on-call firefighters. The uniqueness of the MFRS structure allows for additional resources on the scene during larger incidents, or when the situation requires additional resources for coverage of stations

Map 9 illustrates the current coverage provided by the existing stations utilizing the 240-second travel time principle. We have also considered a 300 second (5-minute) travel time in Map 9.

Map 9: Current Coverage 240 & 300 Second Travel Time



4.10.2 Apparatus Placement

The current placement of apparatus with the minimum number of staff regularly assigned to each unit is outlined in table below.

Table 50: Apparatus List, Minimum Staffing, and Location

No.	Unit Location	Unit No.	Unit Type	Staffing
1	Station 1	S401	Pumper	4
2	Station 1	R401	Rescue	
3	Station 1	T401	Tanker	
4	Station 1	A401	Aerial	
5	Station 1	P401	Pumper	
6	Station 2	P402	Pumper	Part time
7	Station 2	T402	Tanker	
8	Station 3	P403	Pumper	4
9	Station 3	A403	Aerial	
10	Station 3	AL403	Rescue	
11	Station 3	T403	Tanker	
12	Station 4	P404	Pumper	4
13	Station 4	P450	Pumper- Spare	
14	Station 4	P451	Tanker- Spare	
15	Station 5	A405	Aerial	4
16	Station 5	R405	Rescue	

The ability to provide a quick initial response is further compounded by the incident load in a specific station response area. Multiple calls occurring at the same time, or concurrent calls, place further pressures on response performance as another vehicle will be required to respond from another response area, thereby lengthening the response time to an incident. Examining the concurrent call load for each response area can assist in determining apparatus placement and the requirement to have multiple staffed apparatus in a specific station.

Between 2020 and 2024, the fire department experienced a gradual rise in concurrent call activity, with overlapping incidents increasing from 129 in 2020 to 204 in 2024. This equates to a modest increase in concurrent call volume from 6.97% to 7.20% of total annual incidents, figures that remain within reasonable operational parameters and currently present limited risk to public safety.

Over the five-year period, the most common incident types involved in concurrent calls were rescue (24.6%), false fire alarms (23.7%), and a broad "all other" category (36.3%) that includes service calls and miscellaneous non-emergency responses. Resource-intensive events such as rescue and fire suppression often involve extended on-scene times, which can limit unit availability for subsequent calls.

While concurrency levels are currently manageable, the upward trend, combined with growing overall call volumes, warrants continued monitoring. The rise in concurrent medical calls in 2024 may signal shifting service demands or increased reliance on tiered response protocols. Regular analysis of concurrent call data will help ensure that emergency response performance remains effective and resilient as the community evolves.

Table 51 demonstrates the five-year concurrent call load involvement by unit type.

Table 51: 5-Year Concurrent Call Load Unit Involvement

		Station 1	Station 2	Station 3	Station 4	Station 5
2020	Calls	49	4	48	44	N/A
	%	2.65%	0.22%	2.59%	2.38%	N/A
2021	Calls	62	3	38	57	27
	%	3.14%	0.15%	1.93%	2.89%	1.37%
2022	Calls	72	5	5	60	54
	%	3.03%	0.21%	0.21%	2.53%	2.27%
2023	Calls	77	3	33	67	64
	%	3.15%	0.12%	1.35%	2.74%	2.62%
2024	Calls	95	5	59	71	74
	%	3.35%	0.18%	2.08%	2.50%	2.61%
5-year	Calls	355	20	183	294	219
Totals	%	3.09%	0.17%	1.59%	2.56%	1.91%

4.10.3 Station-Level Concurrent Call Load Analysis (2020–2024)

Station 1 has experienced a steady and consistent rise in concurrent call volume over the past five years, culminating in 95 concurrent incidents in 2024, representing 3.35% of its total calls, the highest among all stations. With a five-year average of 3.09%, Station 1 reflects a growing operational workload that may signal potential service level impacts during periods of peak demand. However, these figures remain within acceptable parameters and do not currently pose a significant risk to public safety. Station 4 follows closely with a consistent concurrency pattern ranging from 2.38% to 2.89% annually and a five-year average of 2.56%. Its stable yet high concurrency ranking may reflect its location in a consistently active service area, but its figures are still within manageable thresholds.

Station 3 presents a moderate concurrency profile with a five-year average of 1.59%, despite a sharp dip in 2022 (only five concurrent calls) and a notable increase by 2024 (59 calls; 2.08%). This may indicate shifting demand in its coverage area and should be monitored to identify any emerging service pressures. Station 5, which came online after 2020, has seen a steady increase in concurrent calls, reaching 74 in 2024 (2.61%) and trending similarly to Station 4. Its five-year average of 1.91% is artificially low due to the absence of data in 2020, but overall concurrency remains reasonable. Station 2 consistently records the lowest concurrency levels, averaging just 0.17% over the period, reflecting either a low call volume or a lower level of demand overlap, indicating minimal operational pressure at this time. Overall, concurrency levels across all stations remain within acceptable limits, though Stations 1, 4, and 5 should continue to be monitored as community growth and service demand evolve.

Observation #22: Between 2020 and 2024, Milton Fire & Rescue Services (MFRS) experienced a steady rise in concurrent call activity, with the number of overlapping incidents increasing from 129 to 204 annually. Although the overall proportion of concurrent calls remains manageable, rising slightly from 6.97% to 7.20%, some individual stations, particularly Stations 1, 4, and 5, are beginning to experience elevated levels of overlap. Station 1, for example, recorded the highest concurrency rate at 3.35% in 2024, with a five-year average of 3.09%, suggesting that workload pressures may increasingly strain response capacity in that area. This trend is especially significant for resource-intensive incidents like rescues and fires, which dominate concurrent event profiles and often result in prolonged scene times, limiting apparatus availability for subsequent responses.

While current concurrency rates are within operational norms and not yet indicative of widespread service degradation, early signals of geographic and temporal pressure are emerging. Station 3, for instance, saw a dramatic spike in concurrent calls in 2024 following a low in 2022, highlighting the potential for rapid demand shifts in growth areas. Station 5 has also shown year-over-year increases since coming online. These patterns demonstrate the need for proactive monitoring, especially as continued urban development and increasing call volumes could soon push some stations beyond current resource capacities.

Recommendation #22: Implement a formal concurrent call load monitoring process, using dispatch and incident data analytics to assess call overlap trends by time of day, location, and station impact. This data should be reviewed annually and integrated into resource deployment planning, station siting strategies, and staffing forecasts to determine when new apparatus, personnel, or facility expansion is warranted.

Suggested completion: 1-12- months

Cost: Varies on scope

Strategic Objective: Operations

Rationale: Implementing a formal, data-driven concurrent call monitoring process will allow MFRS to make informed decisions on resource deployment, staffing, and infrastructure planning. By tracking call overlap trends by time of day, location, and incident type, the department can identify emerging pressure points and adapt accordingly. This insight will be crucial in planning for new apparatus deployment, phased hiring strategies, or future station expansion, particularly in zones with rising concurrency or known growth pressures.

Moreover, using dispatch and incident data analytics as part of a standardized annual review will ensure concurrency trends are not only monitored but integrated into broader operational planning processes. This proactive approach enables better anticipation of system strain, supports evidence-based budgeting requests, and reinforces the Town's commitment to maintaining effective response capabilities. As Milton's population grows and urban density increases, a formal concurrency analysis framework will serve as a key tool to protect service levels and ensure timely emergency response across all fire station catchment areas.

4.11 Fire Station Location Analysis

4.11.1 Strategic Role of Station Location in Service Delivery

The location of fire stations is a critical determinant of emergency response effectiveness. As the Town of Milton continues to grow rapidly, especially in the northeast and southeast quadrants, strategic fire station planning must ensure that station deployment aligns with response time performance targets, community risk concentrations, and infrastructure development. A well-positioned fire station can significantly reduce emergency response times, increase survivability and containment success rates, and reduce public exposure to fire-related hazards or other emergencies.

Fire stations are not static assets; they must evolve in response to population changes, road network expansions, and land-use developments. This requires a forward-looking strategy that integrates growth forecasts, risk assessments, and service delivery benchmarks. Timely fire suppression response is directly linked to improved outcomes in emergencies, especially structure fires, medical incidents, and rescues. As such, establishing new stations is both a public safety imperative and a proactive risk mitigation investment.

The Town of Milton currently operates four full-time staffed fire stations, supported by a part time firefighter model that augments response capacity. As population and development increase, particularly in growth nodes such as the Trafalgar GO Transit corridor, the Britannia Secondary Plan area, and the Milton Education Village, response capacity must be scaled accordingly to preserve equity and performance across all service zones.

This section outlines the planning, rationale, and timing for two new fire stations:

- **Station 6**, to be built within the next 60-72 months.
- **Station 7**, to be built beyond 72- months.

4.11.2 Principles of Station Location Planning

When determining future fire station locations, MFRS must consider a wide range of interconnected criteria:

1. Emergency Response Concentrations

- Locations must be responsive to historical and projected call volumes.
- Incident mapping identifies geographic hotspots, particularly for fires, medical calls, MVCs, and rescues.
- These concentrations help determine where demand pressure is most acute, particularly in newly urbanized or intensifying areas.

2. Travel Time Performance

- Stations must maximize compliance with performance standards: **300-second (5-minute) travel time** for the first-due apparatus and 480-second (8-minute) Effective Response Force (ERF) assembly time.
- These benchmarks are derived from the principles of industry best practices and are essential for time-sensitive incidents such as cardiac arrest, active structure fires, and hazardous materials incidents.
- Road infrastructure, topographical barriers, and traffic congestion must be considered when siting stations.

3. Road Network Access

- Stations should be sited with direct access to arterial roads and minimal delay points (e.g., intersections, rail crossings).
- Strategic proximity to grid connectors (e.g., James Snow Parkway, Derry Road, Trafalgar Road, Britannia Road) ensures optimal ingress and egress for emergency vehicles.

4. Land Suitability and Availability

- Preference is given to municipally owned land to reduce acquisition costs and ensure zoning compatibility.
- Minimum 1 to 1.5-acre parcels are needed to support station construction, apparatus maneuvering, parking, crew amenities, and possible future expansion.
- Land banking in advance of development build-out is recommended to ensure affordability and locational flexibility.

5. Alignment with Official Plan and Growth Forecasts

- New station siting must align with the Town's Official Plan, Secondary Plans, and Halton Region's servicing frameworks.
- Understanding the 10–20-year growth trajectory ensures that capital investments remain relevant and capable of serving the community over the long term.

Determining the location of a fire station is an important decision for a growing community. Fire stations must be strategically located to optimize response time, maximize coverage, and minimize overall costs. Geographic Information Systems (GIS) mapping is an essential tool for analyzing optimum coverage areas while evaluating proximity to main roads and high-risk areas. It is imperative that planning for a new fire station is embedded in the community's long-range plan to meet response objectives throughout its lifecycle.

4.11.3 Growth Factors Driving the Need for New Stations

Recent growth analysis highlights several development areas contributing significant population and structural risk:

- **Trafalgar Secondary Plan and GO Mobility Hub:** High-density residential and commercial intensification with vertical growth.
- **Britannia Secondary Plan:** Rapid greenfield development with varied housing forms including mid-rise and low-rise developments.
- **Milton Education Village (MEV):** A blend of institutional, residential, and commercial land use with a distinct focus on student accommodation and research facilities.
- **Walker (Boyne Area):** Continued subdivision build-out, raising call volumes south of Derry Road, including single-detached, townhouses, and emerging low-rise apartment complexes.

These growth areas are expected to add over 50,000 residents by 2031, increasing both the volume and complexity of emergency calls. This translates to a higher concentration of vulnerable populations, increased fire load due to building materials and density, and elevated risk of concurrent incidents in isolated geographic pockets.

4.11.3.1 Station 6 – Trafalgar and Derry Road Area (Target: 60-72 Months)

Station 6 is proposed for the Trafalgar and Derry Road area due to its strategic centrality within the northeast quadrant. This area is experiencing high levels of construction, with multi-residential developments, educational campuses, and retail nodes emerging concurrently.

Objectives and Benefits:

- Extend 300-second travel time coverage to Trafalgar and Louis St. Laurent corridors.
- Reduce dual reliance on Stations 3 and 4 to meet ERF benchmarks.
- Minimize reliance on automatic aid from Mississauga Fire.
- Support regional intensification goals without compromising public safety performance.

Additional Planning Considerations:

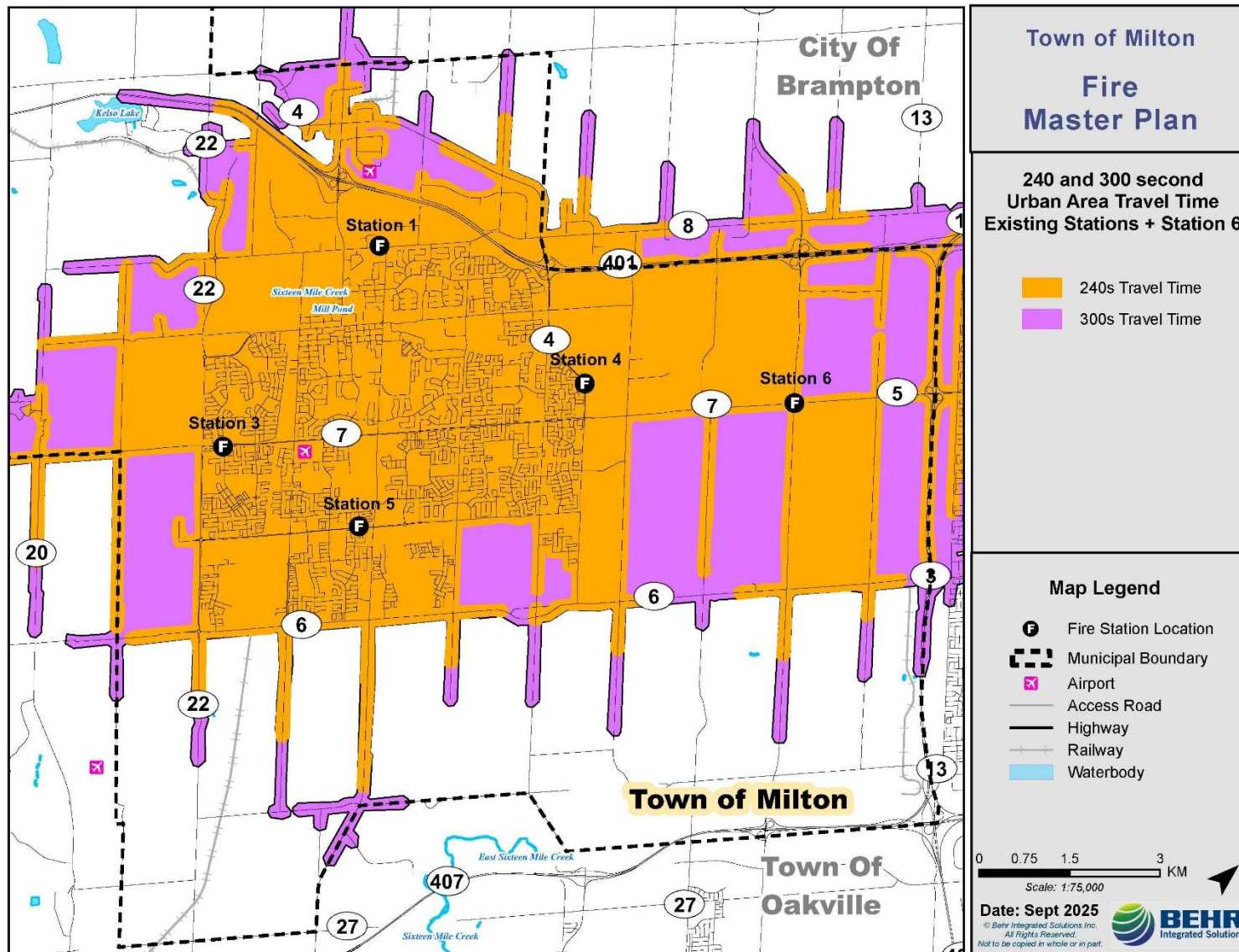
- The site should include sufficient parking for on-shift and off-duty personnel.
- Consideration for future site for state-of-the-art Fire Communications centre, allowing for potential expansion of additional fire departments.
- Sustainable station design (e.g., geothermal, solar) should be evaluated.

Coverage Modeling:

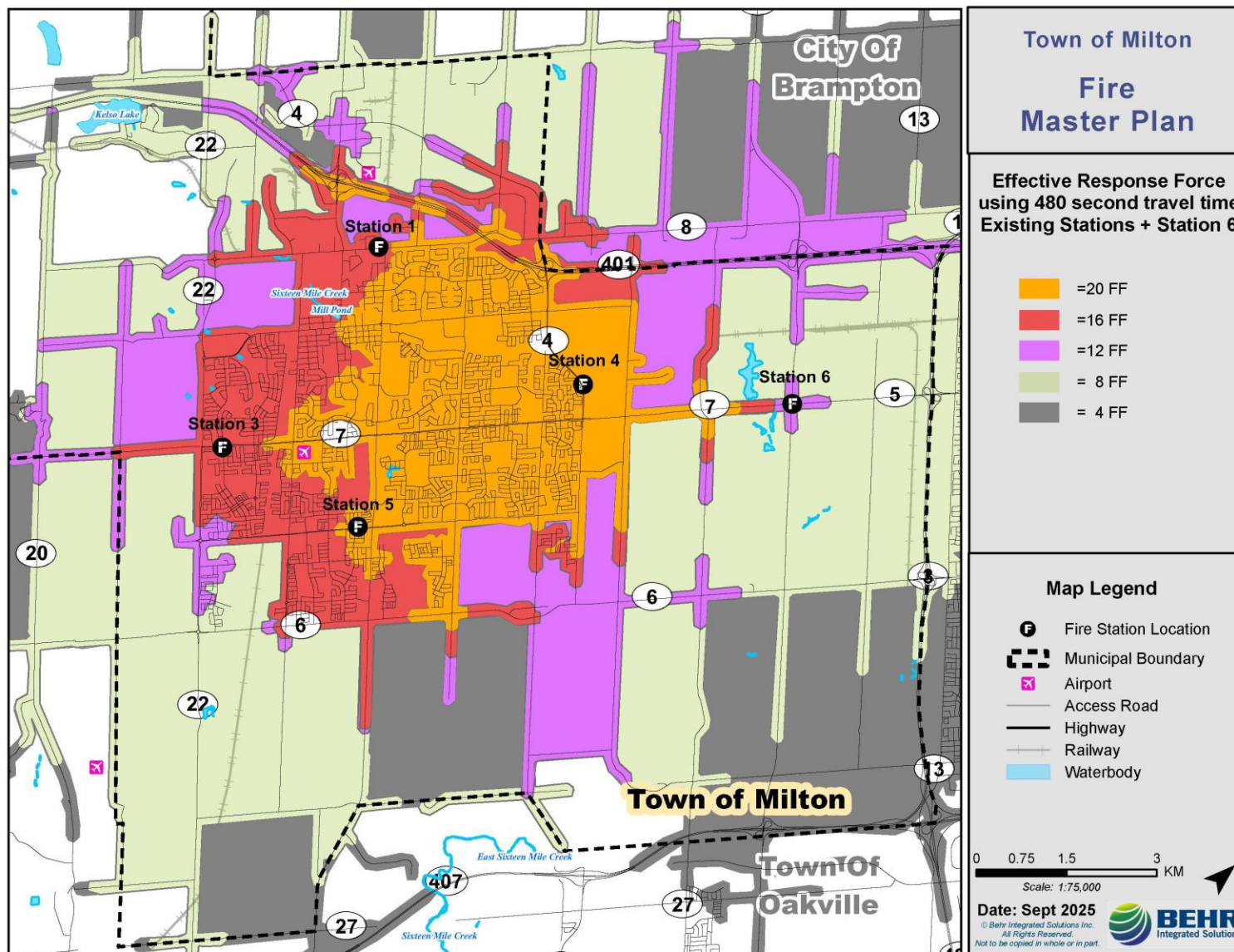
- Map 10: 240 and 300 second travel time – New Station 6
- Map 11 ERF- New Station 6

Note: *Unshaded portions of these maps reflect areas with incomplete road networks. As development proceeds, modeling should be refreshed.*

Map 10: 240 & 300 Second Travel Time, New Station 6



Map 11: Effective Response Force, New Station 6



The following observations to ERF with the addition of station 6:

- Brings the fast-growing south corridor (Trafalgar/Boyne/Britannia) into reliable first-due range.
- Creates meaningful overlap with Station 5, improving redundancy along Britannia and south-central neighbourhoods.
- ERF coverage gains (urban area share within 8 min)
 - 8 ff: ~45–50% → ~65–70%
 - 12 ff: ~20–25% → ~40–45%
 - 16 ff: ~8–12% → ~20–25%
 - 20 ff: ~2–3% → ~8–12%
 - 24 ff: ~0% → ~2–3%

As a result, the operational impacts include:

- Much higher reliability for initial attack and ERF assembly in east and southeast Milton subdivisions and mixed-use nodes.
- Reduces dependence on distant central stations for southern calls; improves resilience during overlapping incidents in the core.

Observation #23: The northeast quadrant of Milton, particularly the Trafalgar and Derry Road area, is undergoing rapid urbanization, marked by significant residential growth, emerging educational institutions, and commercial development. This intensification has led to increased service demand and heightened pressure on existing resources, notably Stations 4 and 5, which currently provide overlapping coverage to the area. Additionally, this zone represents a strategic location within Milton's broader growth framework and is subject to regional intensification policies that will further expand the population and infrastructure in the coming years.

Fire Station 6, centrally located within this evolving urban sector, is positioned to provide critical response time coverage to the Trafalgar corridor and Louis St. Laurent Boulevard. Current coverage gaps compromise MFRS's ability to consistently meet the Effective Response Force (ERF) benchmarks and necessitate reliance on automatic aid from neighbouring jurisdictions such as Mississauga Fire, which is not a sustainable long-term solution. Modeling indicates that a station in this location would close critical gaps in both 240-second and 300-second travel time targets, particularly once the road network is completed.

Recommendation #23: MFRS should proceed with the planning, design, and construction of Fire Station 6 within the next 60-72 months.

Suggested completion: 60-72 months

Cost: Varies on scope

Strategic Objective: Operations

Rationale: *Constructing Station 6 within the next 60-72 months is essential to ensuring MFRS maintains effective service delivery amidst Milton's northeast intensification. The new station will reduce dependency on adjacent stations and external aid, supporting both autonomy and resiliency in Milton's emergency response network. In doing so, it will enable the fire service to meet Council-endorsed performance objectives, maintain compliance with industry best practices, and fulfill expectations tied to development growth.*

Furthermore, the station's proposed design, with space for a communications centre, future third apparatus bay, and multi-use spaces, will support long-term operational flexibility and municipal priorities such as sustainable infrastructure and regional dispatch collaboration. Advancing the planning and construction of Station 6 now will ensure its delivery by 3031-3032, aligned with both staffing forecasts and the Town's long range capital plan. This forward-looking investment positions MFRS to stay ahead of growth, mitigate risk, and maintain community safety as Milton continues to expand.

4.11.3.2 Station 7 – Britannia Corridor (Target: Beyond 72- Months)

Station 7 is envisioned to anchor fire protection in the southeast portion of Milton, particularly Britannia Road corridor. Current travel times from Station 3 exceed 300 seconds during peak traffic hours, which is exacerbated by limited east-west connectivity.

Objectives and Benefits:

- Reinforce fire response within Britannia, Boyne, and MEV.
- Provide backup to Station 5 during concurrency or staffing challenges.
- Enhance ERF capabilities along new collector roads where infill housing is intensifying.

Planning Considerations:

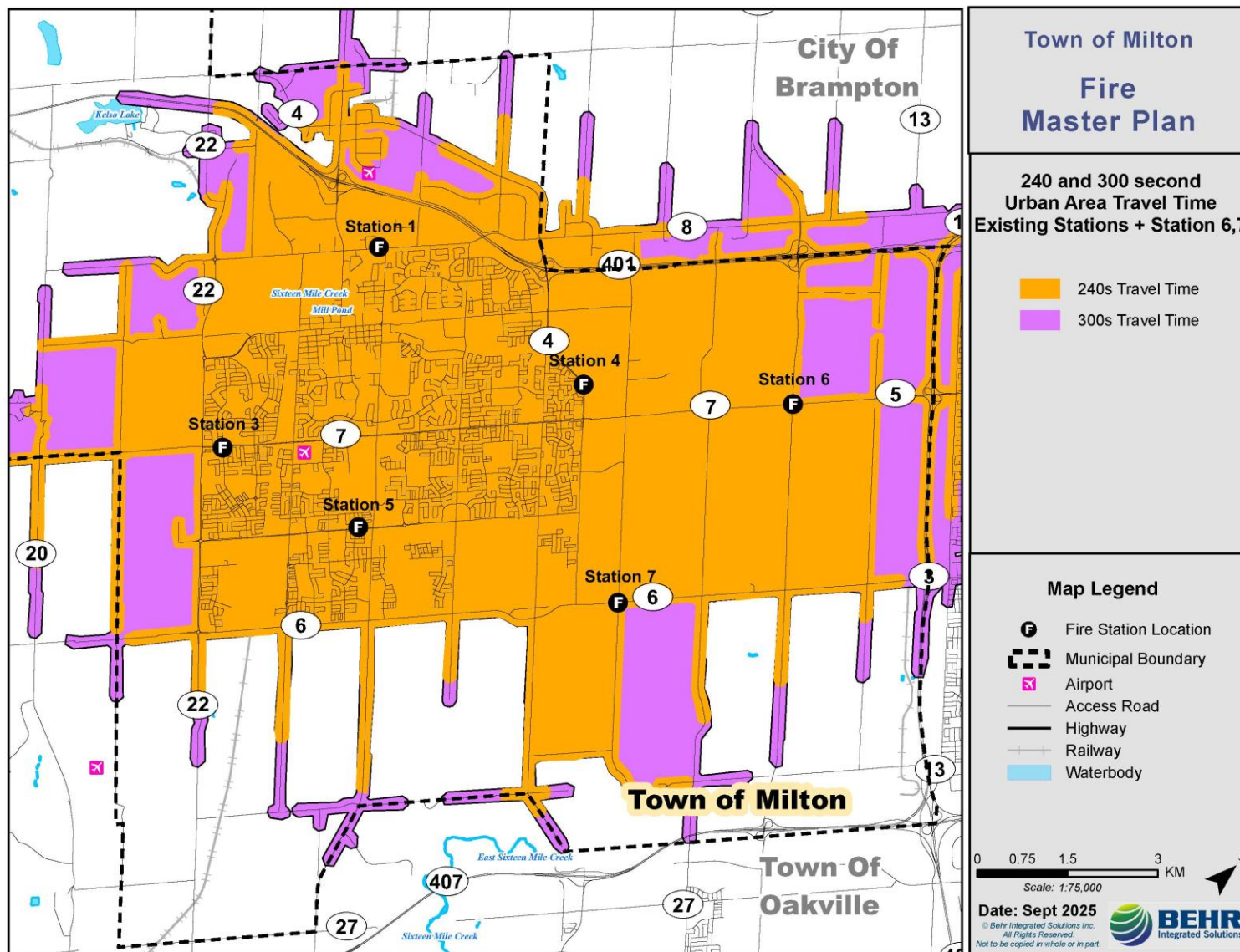
- A three-bay design should be evaluated to allow for housing additional reserve apparatus
- Co-location with EMS could optimize land use.
- Community amenity space could be included for public engagement or fire prevention events.

Coverage Modeling:

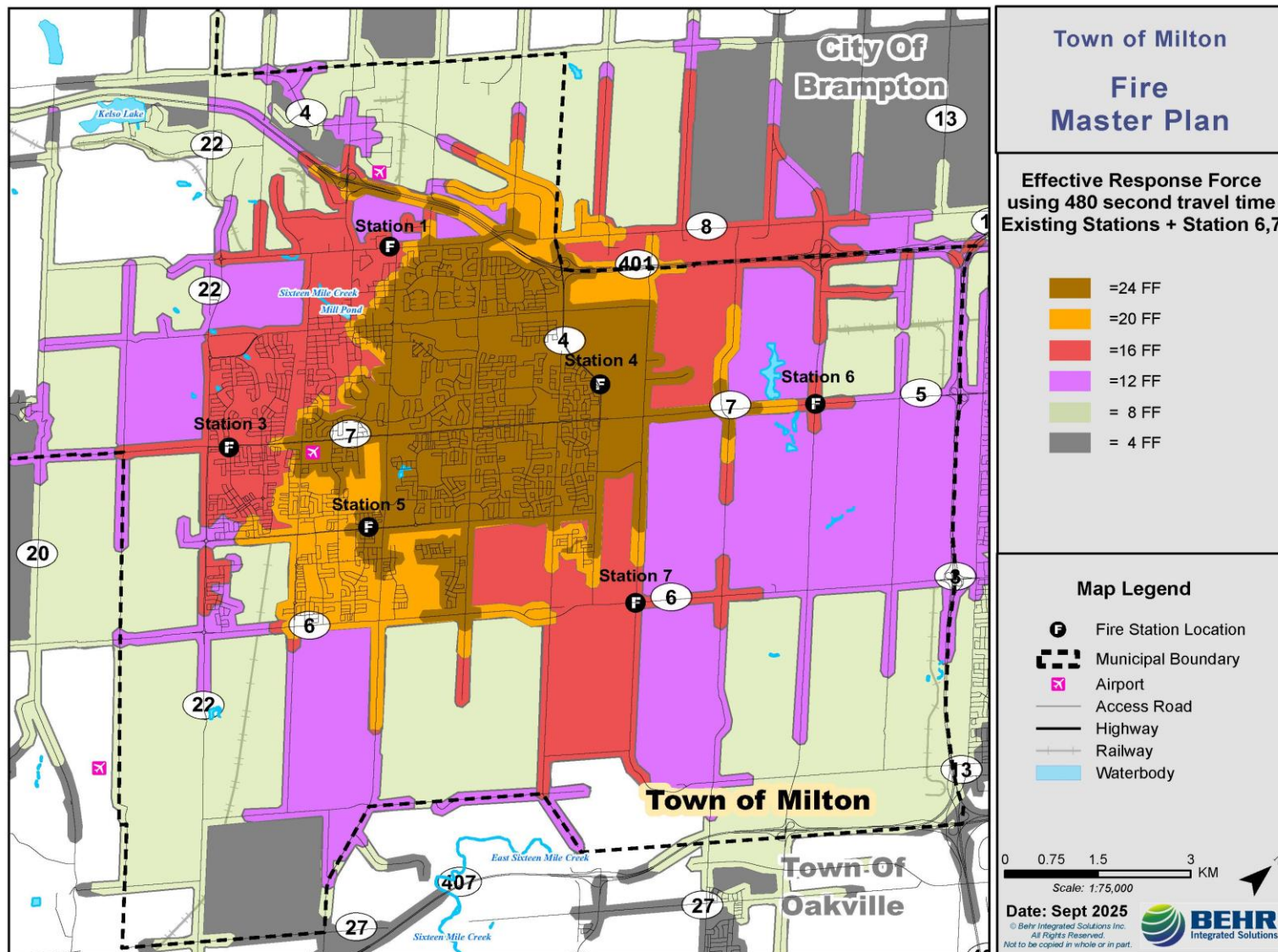
- *Map 12: 240 and 300 second travel time with new station 6 & 7. Map 13: ERF, New Stations 6 & 7*

Note: *Unshaded portions of these maps reflect areas with incomplete road networks. As development proceeds, modeling should be refreshed.*

Map 12: 240 & 300 Second Travel Time, New Station 6 & 7



Map 13: ERF, New Station 6 & 7



The following observations to ERF with the addition of station 6 & 7:

- Adds a southeast anchor, closing one of the last major urban gaps.
- Increases overlap across the central core, boosting multi-company depth town wide.

ERF coverage gains (urban area share within 8 min)

- 8 ff: ~45–50% → ~80–85%
- 12 ff: ~20–25% → ~55–60%
- 16 ff: ~8–12% → ~30–35%
- 20 ff: ~2–3% → ~15–20%
- 24 ff: ~0% → ~6–10%

As a result, the operational impacts include:

- Town-wide ERF reliability improves markedly; most secondary plan areas (east + southeast) now fall within multi-company overlap.
- Stronger redundancy during peak periods and better ability to meet ERF targets without stripping the core.

Observation #24: The southeastern quadrant of Milton, particularly along the Britannia Road and Tremaine Road corridors, remains a key long-term growth area under the Town's intensification and secondary plan framework. This sector includes major future development districts such as Boyne, the Milton Education Village (MEV), and lands south of Derry Road, which are expected to experience significant residential and institutional expansion as buildout progresses. While earlier forecasts suggested this growth would occur within the timeframe of this Fire Master Plan, updated growth projections indicate that the scale and timing of development will likely extend beyond the current planning horizon.

As this area develops, the coverage limitations identified in this observation will remain relevant. Response coverage from Station 5 is expected to become increasingly constrained, particularly during peak traffic periods, with travel times exceeding 300 seconds and impacting MFRS's ability to meet response time benchmarks and effective response force (ERF) targets. Fire station modeling that includes Station 7 demonstrates improved coverage across the Britannia corridor and adjoining collector road network, supporting response performance within both 240- and 300-second travel time objectives. Accordingly, Station 7 should remain a planned long-term infrastructure requirement, with implementation timing revisited as development activity accelerates.

Recommendation #24: Plan for the establishment of Fire Station 7 as a longer-term initiative beyond the current Fire Master Plan horizon, including preliminary site identification, land acquisition considerations, and early design planning. Construction and commissioning should be anticipated beyond the timeframe of this Plan, with the timing to be reassessed and advanced if growth rates or service demand accelerate in the southeast area.

Suggested completion: Beyond the time frames within this FMP

Cost: Varies on scope

Strategic Objective: Operations

Rationale: *Rationale: Although the current Fire Master Plan planning horizon does not fully extend into the period when Station 7 is projected to be required, updated growth projections indicate that continued development and population intensification in the Town's southeast will eventually necessitate additional emergency response capacity. Maintaining Station 7 as a long-term planning priority will help ensure that MFRS remains positioned to respond proactively as these emerging growth areas evolve beyond the timeframe assessed in this Plan.*

By locating Station 7 in the southeast, MFRS will strengthen ERF delivery in this expanding area while also improving overall system resilience by providing operational support to adjacent response zones, including Station 3's district. As concurrency and call volumes increase over time, a strategically located station in the southeast will enhance surge capacity and help mitigate response delays during high-demand periods.

Design considerations such as a three-bay layout, potential co-location with EMS, and dedicated public engagement space reflect best practices in maximizing station utility and supporting community integration. These features will support future apparatus deployment, inter-agency collaboration, and public safety outreach while optimizing land use. Station 7 remains a key long-term investment to protect service level commitments and safeguard southeastern residents as growth continues. Should development occur more rapidly than currently anticipated, the timing of this recommendation should be revisited and accelerated accordingly.

4.11.4 Staffing Model and Phased Implementation

Each new station requires 20 full-time firefighters to maintain a 4-person crew across 4 platoons. This staffing model aligns with:

- Response performance based on the principles of industry best-practice standards for career departments
- 2-in/2-out for interior fire attack

The four-person crew minimum ensures that initial attack teams can operate safely and within legal parameters. It also permits immediate entry in life-threatening conditions without delay.

Strategic Staffing Phasing

The staged hiring approach allows:

- Budget smoothing over multiple fiscal cycles
- Integration of new hires into existing crews for mentorship
- Utilization of recruits to address rising call volumes ahead of station opening

Support Staffing Requirements

- Additional training resources will be needed as full-time personnel exceed 100 FTE.
- Increased fire prevention and public education resources will be essential to address expanding inspection zones.
- Consideration should be given to administrative, scheduling, and data analysis support roles to ensure operational efficiency.

4.11.5 Anticipated Response Time and ERF Coverage Improvements

The proposed stations will close critical coverage gaps. The 300-second benchmark is particularly crucial for:

- Flashover prevention during structure fires
- Rapid defibrillation in cardiac emergencies
- Hazard mitigation in vehicle and industrial incidents

ERF compliance increases are expected to reduce insurance premiums via Fire Underwriters Survey (FUS) and improve public confidence. Mapping analyses should continue annually to track changes and inform resource allocation.

4.11.6 Anticipated Response Time and ERF Coverage Improvements

With the addition of Stations 6 and 7, MFRS will improve its ability to achieve proposed response performance benchmark times, particularly the **240-second and 300-second travel times for first-due engine response** and the **480-second total response for 14-person ERF** in urban and suburban zones.

Table 52: Using 240 Second Travel Time Benchmark

Area/Region	Existing 4-min. Travel Coverage	Post-Station 6	Post-Station 7
Trafalgar Corridor / NE Milton	< 40%	> 90%	> 90%
Britannia Corridor / SE Milton	< 50%	50–60%	> 90%
Walker (Boyne) Area	60%	70%	> 90%
Hwy 401 / James Snow Ramp Zone	65%	> 95%	> 95%
Town-wide 4-min coverage avg	~71% (2024)	~82%	~92%

Table 53: Performance Metric Projections (240 seconds)

Performance Metric	2024 Baseline	2029 Projection (Post-Stn. 6)	2031 Projection (Post-Stn. 7)
1st Apparatus Arrival ≤ 240s @ 90th %	71%	82%	90–92%
Full ERF Assembly ≤ 480s (Structure Fire)	38%	58–65%	75–80%
Concurrency (2+ incidents active)	12% of calls	12% (better distributed)	15% (better distributed)

4.11.7 240-Second Travel Time Benchmark

Using the principles of industry best practice benchmarks recommending 240-second travel time for first-due apparatus, the current system achieves ~71% town-wide coverage. However, significant deficiencies are evident in NE and SE Milton where <50% of calls receive coverage within four minutes.

The addition of Station 6 dramatically improves coverage in the Trafalgar corridor (increasing from <40% to >90%), while Station 7 boosts service to the Britannia and Boyne growth areas. Post-implementation, town-wide 4-minute coverage improves to ~92%, substantially narrowing performance gaps in urbanizing areas.

Despite these improvements, the 240-second target remains difficult to achieve system-wide, especially under increasing traffic, complex intersections, and vertical growth. ERF performance also lags, with full 14-person assembly ≤ 480s only reaching 75–80% even after both stations are active, indicating that distance and staffing distribution still constrain full compliance.

This benchmark represents an aspirational standard that supports maximum survivability and containment but may not fully reflect real-world municipal design and resource limitations.

4.11.8 300-Second Travel Time Benchmark (Proposed for Milton)

The proposed 300-second (5-minute) benchmark provides a more realistic and achievable target that balances risk, geography, and road network constraints. Under this lens, current town-wide coverage already reaches ~76%, improving to ~96% after Stations 6 and 7 are operational.

Notably, areas like NE and SE Milton, previously underserved, reach >95% compliance by 2031. This more inclusive benchmark accounts for travel delays due to development-phase roads, rail crossings, and collector/arterial design, making it a practical planning tool.

ERF assembly time ≤ 480 seconds benefits proportionally from better distributed travel zones, rising to ~78–82% compliance by 2031. This improves the ability to meet the full staffing threshold of 14 firefighters on scene within 8 minutes, even under concurrency.

While slightly less aggressive than the best practice benchmarks the 300-second model better aligns with Milton’s size, growth trends, and built form, offering a more sustainable approach to fire station deployment and capital planning.

Table 54: Proposed 300-Second Benchmark

Metric	240 sec Benchmark	300 sec Benchmark
Town-wide Coverage (2031)	~92%	~96%
NE/SE Growth Area Coverage	Improves from <50% to >90%	Improves from ~60–65% to >95%
ERF Assembly ≤ 480 s	75–80% with new stations	78–82% with new stations
Strategic Fit for Milton	High standard, aspirational	Realistic, practical, well-aligned
Infrastructure Implication	Higher demand on station siting/timing	Greater flexibility in network design

4.11.9 Staffing Implications

Each new fire station (Station 6 and Station 7) will require a total of 20 full-time firefighters, including 16 Firefighters and 4 Captains, to support a 4-platoon system ensuring four firefighters on duty at all times (24/7 coverage). This staffing model aligns with best practice standards for career fire departments and fulfills Ontario’s legal requirements, including compliance with the Occupational Health and Safety Act (OHSA) and the 2-in/2-out best practice for a safe minimum crew for interior fire suppression.

To minimize operational and financial strain, it is recommended that staffing be phased in over a 3–4-year period prior to the commissioning of each station. This gradual approach provides sufficient time for recruitment, onboarding, certification, and integration into the department’s operational culture.

Table 55: Staffing Implications

Year	Station 6	Station 7
2026	Hire 4 FTE firefighters	
2027	Hire 8 FTE firefighters	
2028	Hire 8 FTE firefighters	
	Promote 4 Captains	
2029		Hire 4FTE firefighters
2030		Hire 8 FTE firefighters
2031		Hire 8 FTE firefighters
		Promote 4 Captains
Total	20 FTEs (16 FF + 4 Captains)	20 FTEs (16 FF + 4 Captains)

This phased staffing plan ensures that each new fire station can operate with a full suppression complement immediately upon opening while distributing financial and HR impacts across multiple budget years. Incremental hires may be used for float coverage, special projects, or to address overtime relief prior to station activation.

As the department expands toward 100+ full-time operational personnel, Milton Fire & Rescue Services should also consider the need for:

- **Additional Training Officers**, to support recruit training, probationary evaluations, and continuing education.
- **Administrative support**, particularly in scheduling, performance reporting, and payroll coordination.

The recommended staffing model reflects not only operational best practices but also the safety considerations that apply to full-service fire departments in Ontario.

Observation #25: The recommended addition of Station 6 and Station 7 represents a critical expansion of Milton Fire & Rescue Services (MFRS) to meet the demands of urban growth in the northeast and southeast quadrants of the Town. To ensure these stations are fully operational upon opening, and to prevent overburdening existing resources, MFRS must align its staffing model with the projected timelines for infrastructure completion and community development. A phased hiring schedule beginning in 2026 enables incremental onboarding, operational readiness, and supervisory development ahead of full-service activation. This strategy minimizes budgetary shocks, promotes workforce stability, and ensures a progressive buildup of operational capacity.

The proposed plan includes the hiring of 4 full-time firefighters in 2026, 8 firefighters in both 2027 and 2028, with the promotion of 4 captains in 2028 to establish the supervisory structure required for Station 6. This model is mirrored for Station 7, beginning with new hires in 2029 and culminating in full staffing and promotions by 2031. This staged approach supports succession planning and provides time for integrated training, policy development, and shift assimilation.

Recommendation #25: Incorporate phased hiring plans for Station 6 and Station 7 into its 10-year staffing forecast, with annual adjustments reviewed during the Town's budget cycle.

Suggested completion: 12-72 months

Cost: Wage cost per firefighter \$111,771 (2024) plus benefits

Strategic Objective: Operations

Rationale: Integrating phased hiring into MFRS's 10-year staffing forecast, with annual adjustments reviewed during the Town's budget cycle, provides a flexible and financially responsible approach to workforce planning. It allows the Town to match staffing investments with construction progress, service demand indicators, and evolving fiscal conditions. This recommendation also ensures compliance with response time benchmarks and Effective Response Force (ERF) requirements as service areas expand, and call volumes increase.

Moreover, by pre-emptively onboarding and training new staff ahead of station openings, MFRS can maintain high levels of service continuity and operational cohesion. It mitigates the risks associated with last-minute recruitment, including training delays, onboarding bottlenecks, and leadership gaps. Formalizing the phased hiring schedule within the Town's long-range financial and staffing plans reflects strategic foresight and demonstrates a commitment to maintaining responsive, scalable, and efficient emergency services across all regions of Milton.

Observation #26: The current Effective Response Force (ERF) coverage in the northeast quadrant of Milton is challenged by increasing development, higher call volumes, and the geographic distance from existing fire stations. Station 1, while centrally located, experiences frequent concurrent calls and is increasingly relied upon to cover adjacent high-growth areas such as Trafalgar and Derry Road, where Station 6 is planned. The current deployment model at Station 1 lacks the staffing capacity to support multiple simultaneous incidents or quickly scale to complex calls requiring full ERF. As the phased hiring of full-time firefighters begins in 2026, these new resources offer an opportunity to enhance coverage by activating a second staffed response unit at Station 1, thereby addressing current response delays and mitigating risk to public safety.

Recommendation #26: Temporarily staff a second response vehicle at Station 1, using the phased hiring of full-time firefighters between 2026 and 2028, as outlined in the staffing forecast in recommendation 25. This second unit should remain operational until a full-time response vehicle can be relocated to new station 6.

Suggested completion: 12-36 months

Cost: neutral

Strategic Objective: Operations

***Rationale:** Temporarily staffing a second response vehicle at Station 1 during the 2026–2028 hiring phase provides a strategic bridge between present service delivery limitations and future infrastructure development. This interim measure enhances operational flexibility, reduces strain on existing crews, and significantly improves the ability to meet ERF targets for complex incidents or concurrent calls, particularly in high-growth zones to the east of Station 1. By utilizing planned personnel increases, the Town avoids the need for additional immediate hiring while optimizing the deployment of available human resources.*

This approach also allows MFRS to gather performance data, refine deployment strategies, and train new personnel under live operational conditions, ensuring they are fully prepared when transitioned to Station 6. Maintaining the second unit at Station 1 until Station 6 becomes operational reinforces Milton’s commitment to proactive service delivery and strengthens emergency response capability in a cost-effective and scalable manner.

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Appendix A: Glossary of Terms

Apparatus	Any vehicle provided with machinery, devices, equipment, or materials of the Fire department for firefighting as well as equipment used to transport firefighters or supplies.
Assembly Time	The time the notification sounds in the fire station until the first vehicle leaves the station. In a full-time department this is expected to be within 80 seconds but for volunteer departments the time to collect a response crew can vary widely depending on location and time of emergency as well as all the factors that impact travel time.
Chute Time	See Assembly Time
Dangerous Goods	This term is synonymous with the terms hazardous materials and restricted articles. The term is used internationally in the transportation industry and includes explosives, and any other article defined as a combustible liquid, corrosive material, infectious substances, flammable compressed gases, oxidizing materials, poisonous articles, radioactive materials, and other restrictive articles.
Discovery	Time between the start of the emergency and when someone or an engineered system has detected the incident.
Dispatch Time	Time required to extract the necessary information from the caller to allow the proper response to be initiated. The dispatcher identifies the correct fire location and initiates the dispatch by paging the appropriate fire station.
Emergency Call	The period between discovery and the actual notification of emergency services.
Emergency Communications Centre (ECC)	A facility dedicated to emergency services to receives calls, processes them, and then dispatches emergency units to the correct location in the appropriate time period.
Emergency Operations Centre (EOC)	The protected sites from which civil officials coordinate, monitor, and direct emergency response activities during an emergency or disaster.
Emergency	Any occasion or instance that warrants action to save lives and to protect property, public health, and safety. A situation is larger in scope and more severe in terms of actual or potential effects.
Fire Suppression	The application of an extinguishing agent to a fire at a level such that an open flame is arrested; however, a deep-seated fire will require additional steps to assure total extinguishment.
Hazard Analysis	A document, which identifies the local hazards that have caused, or possess the potential to adversely affect public health and safety, public and private property, or the environment.
Impact	The effect that each hazard will have on people such as injury and loss, adverse effects on health, property, the environment, and the economy.

Incident	A situation that is limited in scope and potential effects.
Intervention Time	The time from fire reporting to the point where the first arriving pumper, or other apparatus providing comparable functions, arrives at the fire scene and directs an extinguishing agent on the fire.
Mutual Aid Agreement	An agreement between jurisdictions to assist each other during emergencies by responding with available workforce and apparatus.
National Fire Protection Association	The National Fire Protection Association (NFPA) is an internationally recognized trade association established in 1896 that creates and maintains standards and codes for usage and adoption by local governments to reduce the worldwide burden of fire and other hazards. This includes standards and guidelines to which many fire departments utilize to carry on day-to-day operations.
Response	Those measures undertaken immediately after an emergency has occurred, primarily to save human life, treat the injured, and prevent further injury and losses. They include response plan activation, opening and staffing the EOC, mobilization of resources, issuance of warnings and direction, provision of aid, and may include the declaration of a State of Local Emergency.
Risk	The chance or likelihood of an occurrence based on the vulnerability and known circumstances of a community.
Setup Time	This is the time necessary on site to evaluate the necessary actions, position the required resources and commence the intervention. In the case of a fire, completing size-up, assigning the necessary tasks, and deploying resources can provide delays on scene. A well-trained crew can minimize these delays while providing a safe, successful response.
Standard Operating Guidelines (SOG)	A written organizational directive that establishes or prescribes specific operational or administrative methods to be followed routinely, which can be varied due to operational need in the performance of designated operations or actions.
Standard Operating Procedures (SOP)	A written organizational directive that establishes or prescribes specific operational or administrative methods to be followed routinely for the performance of designated operations or actions.
Travel Time	Time period from when the apparatus leaves the station to when it arrives on scene. Factors to consider for travel time are driver skill, weather, traffic, topography, road conditions and vehicle capabilities.

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Appendix C: Community Comparative Analysis

Budgets

Department budgets are of particular importance for most communities. In some instances, fire and emergency services are a considerable portion of a municipality's operating budget. This information was obtained using reported 2024 budgets.

Table 56: Community Comparative Budget Ranking

Community	Municipal Budget 2024	Fire Dept. Operating Budget	% of Municipal Budget	Cost Per Capita
Town of Milton	\$192,300,000	\$15,663,714	8.14%	\$117.79
City of Guelph	\$550,764,311	\$32,031,617	5.82%	\$222.84
Town of Oakville	\$446,606,303	\$46,922,000	10.51%	\$291.51
City of Burlington	\$244,000,000	\$36,875,000	15.11%	\$197.25
Town of Halton Hills	\$69,968,495	\$10,319,800	14.75%	\$163.93
Municipality of Clarington	\$76,807,800	\$14,766,827	19.23%	\$145.59
Municipality of Chatham-Kent	\$418,984,119	\$25,843,161	6.17%	\$248.52
Per Capita Net Expenditure Fire (Milton): \$117.79				
Average Per Capita Net Expenditure Fire: \$152.42				

Image 3: Fire Department Budget as Percent of Municipal Budget

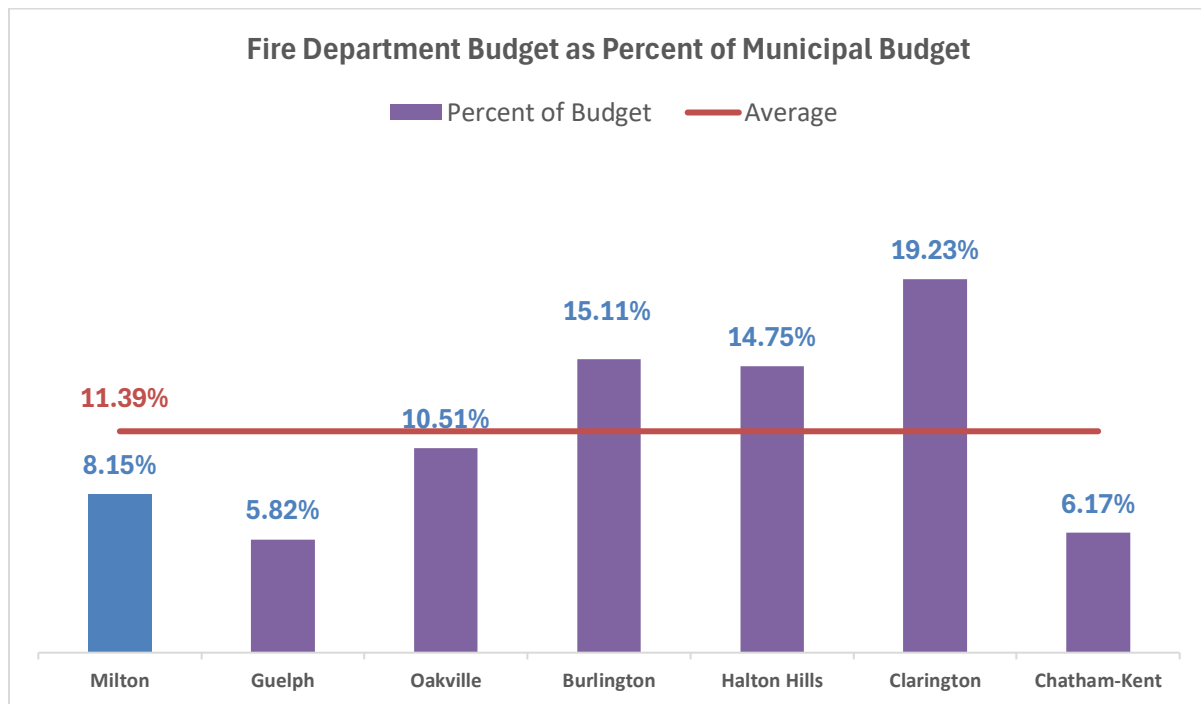
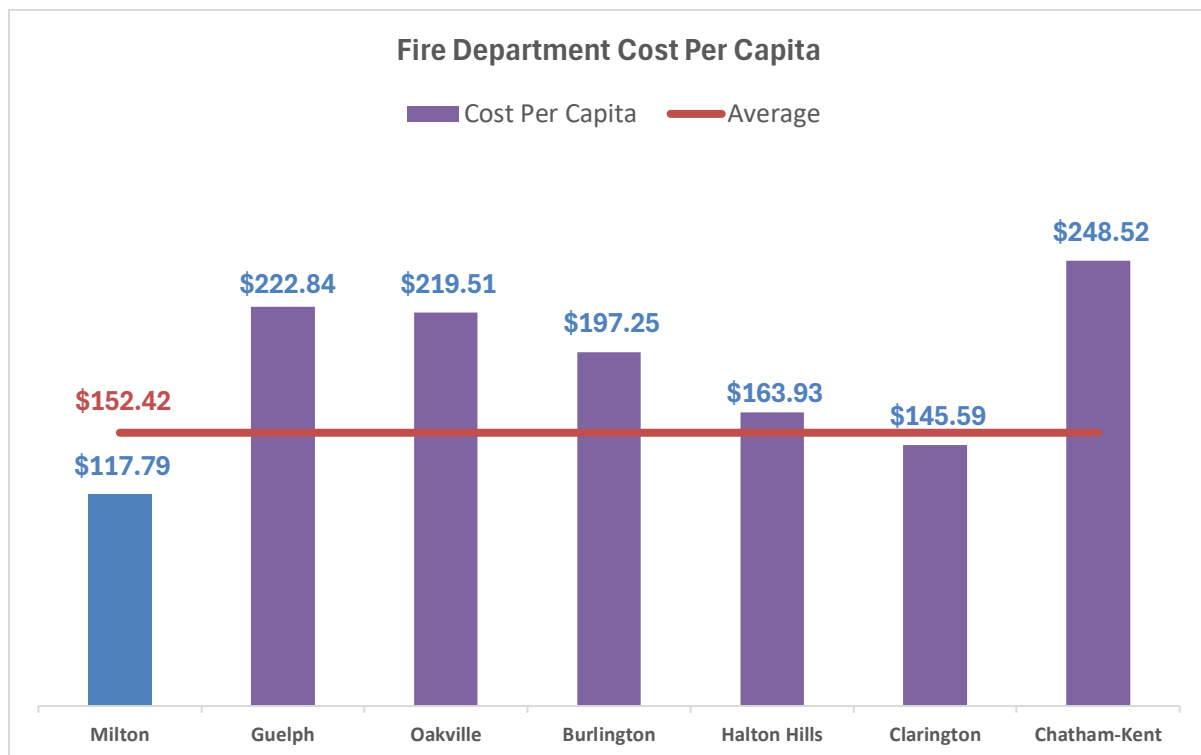


Image 4: Cost Per Capita Comparison



Industry Standards

Table 57: Community Comparative Standard of Cover

Community	Standard of Cover	Council Approved?	Standard based on a leading practice. i.e., NFPA, OHS, etc.
Town of Milton	No	No	NA
City of Guelph	No	No	NA
Town of Oakville	Yes	NA	Yes
City of Burlington	Yes	Yes	Yes
Town of Halton Hills	No	No	NA
Municipality of Clarington	Yes	Yes	No
Municipality of Chatham-Kent	No	No	NA

Department Profile

Department profiles, staffing models and levels of service are based on community risk, risk tolerance and the ability of a community to pay for and sustain desired service levels.

Table 58: Community Comparative Departments' Profile

Community	Milton	Guelph	Oakville	Burlington	Halton Hills	Clarington	Chatham-Kent
Department Type	Composite	Career	Career	Composite	Composite	Composite	Composite
No. of Stations	5	6	9	8	3	5	19
Total Staff	166.5	181	257	273	109	179	450
Fire Chief (FT/PT)	FT	FT	FT	FT	FT	FT	FT
Total Deputy Chief (PT/FT)	2 FT	2 FT	3 FT	3 FT	3 FT	2 FT	4
Total Assistant Deputy Chief (ADC)							
Total Support Staff (PT/FT)	2.5	3	3	4	2	3	5
Total Suppression Staff (PT/FT) (WEP – Work Experience Program)	84 FT 70 PT	147 FT	240 FT	180	54 FT 44 PT	64 Ft 100 PT	420
Total Fire Prevention Staff (PT/FT)	5 FT	7 FT	12 FT	8	2 FT	5 FT	4
Total Training Staff (PT / FT)	4 FT	2 FT	5 FT	3	2 FT	3 FT	2
Total Dispatch Staff (PT / FT)	1 Div Chief 8 FT 6PT	8 FT 1 FT Comms. Manager	N/A	14	N/A	N/A	N/A
Mechanical	2 FT	2 FT	N/A	N/A	1 FT	1	N/A
Other	N/A	1 FT - IT	N/A	N/A	N/A	N/A	N/A

FT: Fulltime PT: Part-time POC: Paid-On-Call PPC: Paid-per-Call

Response Data

The same 2020–2024 information was used in comparing the response data for each community. Information is shared using two categories: Incident Type and Call Volume. Using these breakdowns allows for the uniqueness of each community to be represented as well as highlighting the areas of similarity for fire and emergency response.

Table 59: Examples of Incident Types for Statistical Analysis

INCIDENTS BY TYPE		
EMS Related Calls		
Call Types	Pre-Hospital Care: Alpha, Bravo Charlie Delta Echo	
	Lift Assist	
	False Alarms	
Fire-Related Calls		
Fire Emergency	Alarm Burning Complaint Structure Fire Minor Fire Smoke	Car Fire Re-check Wildfire – Grass, Brush, Outdoor Oven/Pot on stove explosion
MVI (Motor Vehicle Incident), aka MVC (Motor Vehicle Collision)	Extrication	No Extrication
Rescue	Stalled Elevator Ladder/Machine Rescue High Angle	Swift Water Building Collapse Ice
Hazmat/Dangerous Good	Highway Incident Truck Incident	Industrial Incident Resident Incident
Non-Emergency	Carbon Monoxide Gas/Oil Smell/Spill Power/Telephone/Cable Line Down Natural Gas Leak	Aircraft Standby Incident Bomb Threat Hazardous Materials Propane Leak/Smell
Other	Inspection Burning Pile Inspection Assist Other Agency Public Service	Needle Pick-up Flood Assessment Water Problem (in structure)

Note: Description and category names may not be common terminology in all jurisdictions.

Table 60: Municipal Comparative Response Call Volume

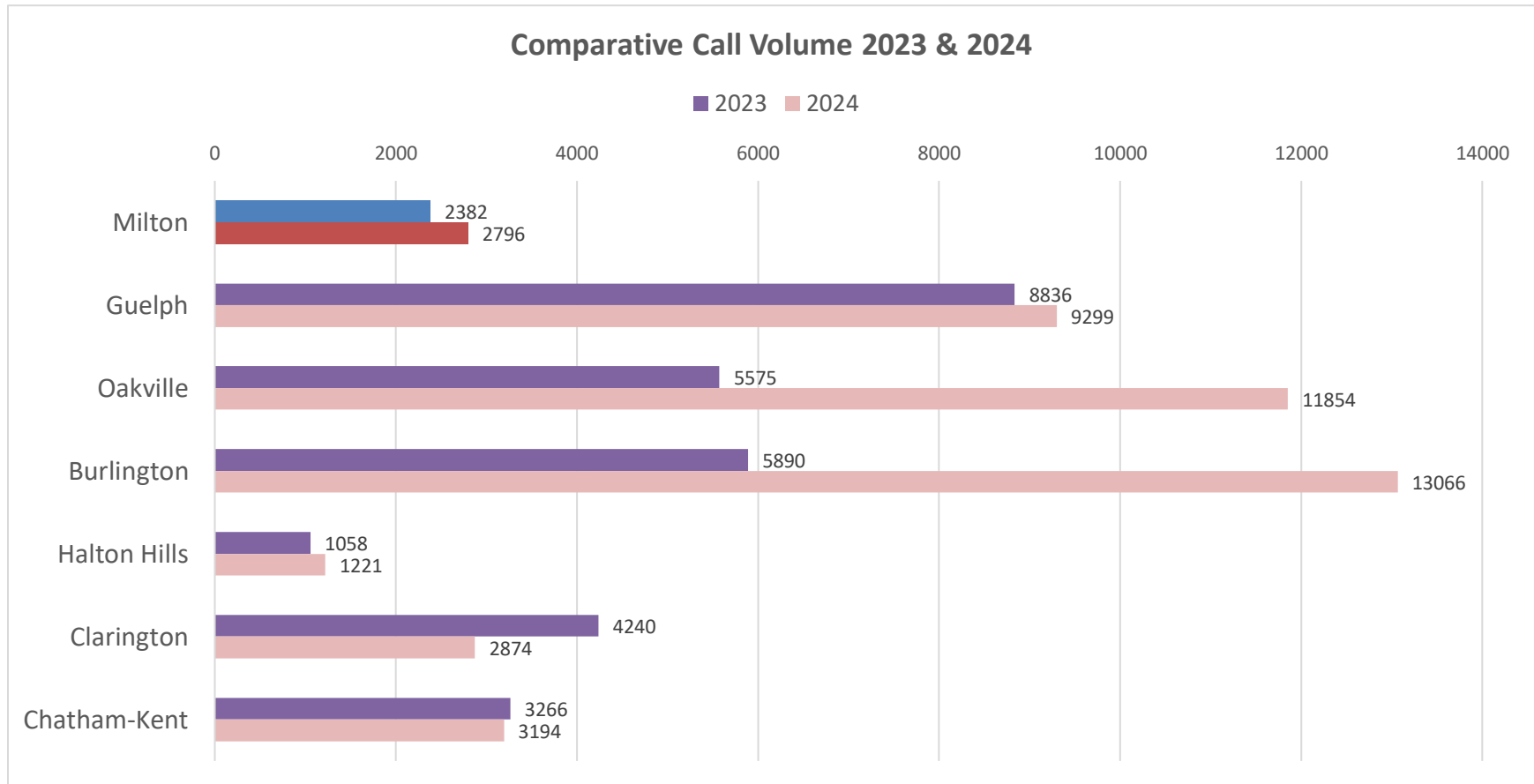
Community		Milton	Guelph	Oakville	Burlington	Halton Hills	Clarington	Chatham-Kent
Total Call Volume	2020	1809	5914	6380	7009	1003	2629	N/A
	2021	1983	7395*	6968	7643	925	2215	N/A
	2022	2301	8248	8120	8701	1071	2535	2976
	2023	2382	8836	5575	5890	1058	4240°	3266
	2024	2796	9299	11854	13066	1221	2874	3194
Fire Related Calls	2020	1729	N/A	NA	2784	28	428	N/A
	2021	1862	Oct-Dec: 583 *	NA	3013	40	368	N/A
	2022	2181	3049	NA	3220	26	318	2359
	2023	2208	3249	NA	3346	27	331	2709
	2024	2478	3657	NA	3578	63	360	2566
EMS Related Calls	2020	80	N/A	NA	4225	125	960	N/A
	2021	121	Oct-Dec: 1213 *	NA	4630	101	596	N/A
	2022	120	6859	NA	5481	126	605	617
	2023	174	6541	NA	2544	161	2350°	557
	2024	318	5064	NA	9488	172	801	628

* New RMS implemented October 2021

° For 2023, Clarington Emergency and Fire Service medical protocols were adapted to include difficulty breathing and chest pain

N/A - No data available

Image 5: Municipal Comparative Response Call Volume (2023& 2024)



Appendix D: Response Mapping Methodology

Response travel times are directly influenced by station location and can be varied based upon a cost/risk analysis and the development of performance targets.

Data Formats

Preference of ESRI Shapefiles

Base Data Layers Requested

A. Hydrology

- Supports response planning for water-related incidents (e.g., water rescue units).
- Enables analysis of spill contamination risks and containment strategies, especially in relation to rail networks and overland flow.
- Identifies bridge crossings that may be incident-prone (e.g., MVC/MVA, spills).
- Enhances map completeness and situational awareness.

B. Single-Line Road/Transportation Network

- Used to calculate response times based on road speeds.
- Roads are modeled into a network to support response routing.

C. Railways

- Identifies risk areas where rail infrastructure may impede response times.
- Assists in planning for derailments, chemical spills, and evacuation scenarios.

D. Municipal Boundaries

- Defines mutual aid limits and jurisdictional responsibilities.
- Supports sub-area mapping and regional response zone identification.
- Provides data for gap analysis and future station planning.

E. Parks

- Highlights accessibility challenges and opportunities for station placement.
- Supports locational analysis for new stations based on proximity.
- Includes classification of parks (local, regional, provincial, national).

F. Projection File

- Ensures spatial consistency with client or municipal datasets.
- Enables accurate measurement of distance and time for analysis.

G. Orthophoto (GeoTIFF, Mr.SID)

- Used for ground-truthing and visual verification of locations.
- Not typically included in final maps due to size and transfer limitations.

H. Emergency Services Locations

- Ensures accurate geolocation of facilities beyond address matching.
- Adjustments may be made to align facility points with road networks (typically within 50 meters).

Response Zone Modeling**A. Assumptions**

- Average weather conditions (no storms, snow, etc.).
- Roadway segments include nodes/junctions at intersections.
 - If missing, network requires cleaning and fixing.
- Roadways may extend beyond municipal boundaries.
- Emergency responders are trained, and vehicles are operational.
- Roads are dry and in good condition.
- No time penalties for left turns.
- Road speeds provided by client; if unavailable:
 - Speeds are derived from road class tables.
 - Posted speeds are reduced by up to 5%.
- Average traffic volume; assumes free-flowing lanes.
- Rail crossings are unobstructed.
- Time of day modeled between 9 AM – 9 PM.
- Traffic signal pre-emption systems (e.g., Opticom) are assumed to be present.
- No intersection delays unless specified.
- School zones are adjusted only if identified.

B. Response Time Calculation

- Customized based on input from Emergency Services.
- Includes 80% of typical service calls.
- Based on total drive time using road speed data.
- Adjustments made for known variances or trends.

C. Response Polygons

- Define general response areas based on maximum drive limits.
- Identify mutual aid zones and coverage gaps.
- Support fire zone development and station planning.
- Highlight potential station relocations.

Additional Analysis**A. Out-of-Scope (Subject to Client Discussion)**

- Transition from project-based to operational modeling:
 - Time-of-day and seasonal variations
 - Call volume and types
 - Advanced modeling and scripting for batch processing

B. Data Availability

- Client-provided data is used when sufficiently detailed.
- Assumptions are made when data is incomplete.

C. Advanced Analysis (Optional)

- Intersection-based speed reductions (e.g., stop signs, traffic lights).
- May be complex and time-intensive due to:
 - Limited client engagement
 - Inaccessible or missing data
 - One-off nature of projects

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Appendix E: Mandatory Certification for Fire Protection Services

Item	Fire protection service	Minimum Certification Standard	Compliance Deadline
1	Firefighter Exterior Attack: Fire suppression operations from the exterior of the building only.	The following job performance requirements of NFPA 1001, “Standard for Fire Fighter Professional Qualifications”, 2019 Edition, Chapter 4 (Firefighter I) and Chapter 5 (Firefighter II): 4.1, 4.2, 4.3.1, 4.3.2, 4.3.3, 4.3.6, 4.3.7, 4.3.8, 4.3.10 (A1-A9, B1-B3, B4 (exterior stairway), B5-B10), 4.3.15, 4.3.16, 4.3.17, 4.3.18, 4.3.19, 4.3.20, 4.3.21, 4.5 5.1, 5.2, 5.3.1, 5.3.2 (A1-A4), 5.3.3, 5.3.4, 5.4.2, 5.5.3, 5.5.4, 5.5.5	July 1, 2026
2	Firefighter Exterior Attack and auto extrication: Fire suppression operations from the exterior of the building only and auto extrication rescue.	All job performance requirements in item 1 and the following job performance requirements of NFPA 1001, “Standard for Fire Fighter Professional Qualifications”, 2019 Edition, Chapter 5 (Firefighter II): 5.4.1	July 1, 2026
3	Firefighter Exterior Attack and hazardous materials response: Fire suppression operations from the exterior of the building only and Operations-level hazardous materials response.	All job performance requirements in item 1, all job performance requirements of NFPA 1072, “Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications”, 2017 Edition, Chapter 5 (Operations), and the following job performance requirements of Chapter 6 (Operations Mission Specific): 6.2 and 6.6	July 1, 2026

Item	Fire protection service	Minimum Certification Standard	Compliance Deadline
4	Firefighter Exterior Attack, auto extrication, and hazardous materials response: Fire suppression operations from the exterior of the building only, automobile extrication rescue and Operations-level hazardous materials response.	All job performance requirements in items 1, 2 and 3.	July 1, 2026
5	Firefighter Interior Attack: Fire suppression operations that enter the interior of the building and can perform rescue.	All job performance requirements in item 1 and the following job performance requirements of NFPA 1001, "Standard for Fire Fighter Professional Qualifications", 2019 Edition, Chapter 4 (Firefighter I) and Chapter 5 (Firefighter II): 4.3.4, 4.3.9, 4.3.10 (A10-A11, B4 (interior stairway), B11), 4.3.11, 4.3.12, 4.3.13, 4.3.14 5.3.2 (A5-A9, B1-B6)	July 1, 2026
6	Firefighter Interior Attack and auto extrication: Fire suppression operations that enter the interior of the building and can perform rescue and automobile extrication rescue.	All job performance requirements in item 5 and the following job performance requirements of NFPA 1001, "Standard for Fire Fighter Professional Qualifications", 2019 Edition, Chapter 5 (Firefighter II): 5.4.1	July 1, 2026
7	Firefighter Interior Attack and hazardous materials response: Fire suppression operations that enter the interior of the building and Operations-level hazardous materials response.	All job performance requirements in item 5, all job performance requirements of NFPA 1072, "Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications", 2017 Edition, Chapter 5 (Operations) and the following job performance requirements of Chapter 6 (Operations Mission Specific): 6.2 and 6.6	July 1, 2026

Item	Fire protection service	Minimum Certification Standard	Compliance Deadline
8	Firefighter Interior Attack, auto extrication, and hazardous materials response: Fire suppression operations that enter the interior of the building and can perform rescue, automobile extrication rescue, and Operations-level hazardous materials response (full-service firefighter).	All job performance requirements of NFPA 1001, “Standard for Fire Fighter Professional Qualifications”, 2019 Edition, Chapter 5 (Firefighter II).	July 1, 2026
9	Team Lead Exterior Attack: Supervision of firefighters that provide fire suppression operations from the exterior of the building only.	All job performance requirements in item 1 and the following job performance requirements of NFPA 1021, “Standard for Fire Officer Professional Qualifications”, 2020 edition, Chapter 4 (Fire Officer I): 4.1.1, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.4.1, 4.4.2, 4.4.4, 4.4.5, 4.5.3, 4.6, 4.7.1, 4.7.3	July 1, 2026
10	Team Lead Exterior Attack and auto extrication: Supervision of firefighters that provide fire suppression operations from the exterior of the building only or that provide auto extrication rescue.	All job performance requirements in item 2 and the following job performance requirements of NFPA 1021, “Standard for Fire Officer Professional Qualifications”, 2020 edition, Chapter 4 (Fire Officer I): 4.1.1, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.4.1, 4.4.2, 4.4.4, 4.4.5, 4.5.3, 4.6, 4.7.1, 4.7.3	July 1, 2026
11	Team Lead Exterior Attack and hazardous materials response: Supervision of firefighters that provide fire suppression operations from the exterior of the building only or that provide Operations-level hazardous materials response.	All job performance requirements in item 3 and the following job performance requirements of NFPA 1021, “Standard for Fire Officer Professional Qualifications”, 2020 edition, Chapter 4 (Fire Officer I): 4.1.1, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.4.1, 4.4.2, 4.4.4, 4.4.5, 4.5.3, 4.6, 4.7.1, 4.7.3	July 1, 2026

Item	Fire protection service	Minimum Certification Standard	Compliance Deadline
12	Team Lead Exterior Attack, auto extrication, and hazardous materials: Supervision of firefighters that provide fire suppression operations from the exterior of the building only or that provide automobile extrication rescue or Operations-level hazardous materials response.	All job performance requirements in item 4, and the following job performance requirements of NFPA 1021, “Standard for Fire Officer Professional Qualifications”, 2020 edition, Chapter 4 (Fire Officer I): 4.1.1, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.4.1, 4.4.2, 4.4.4, 4.4.5, 4.5.3, 4.6, 4.7.1, 4.7.3	July 1, 2026
13	Team Lead Interior Attack: Supervision of firefighters that provide fire suppression operations from the interior of the building and can perform rescue.	All job performance requirements in item 5 and the following job performance requirements of NFPA 1021, “Standard for Fire Officer Professional Qualifications”, 2020 edition, Chapter 4 (Fire Officer I): 4.1.1, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.4.1, 4.4.2, 4.4.4, 4.4.5, 4.5.3, 4.6, 4.7.1, 4.7.3	July 1, 2026
14	Team Lead Interior Attack and auto extrication: Supervision of firefighters that provide fire suppression operations from the interior of the building and can perform rescue or that provide automobile extrication rescue.	All job performance requirements in item 6 and the following job performance requirements of NFPA 1021, “Standard for Fire Officer Professional Qualifications”, 2020 edition, Chapter 4 (Fire Officer I): 4.1.1, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.4.1, 4.4.2, 4.4.4, 4.4.5, 4.5.3, 4.6, 4.7.1, 4.7.3	July 1, 2026

Item	Fire protection service	Minimum Certification Standard	Compliance Deadline
15	Team Lead Interior Attack and hazardous materials response: Supervision of firefighters that provide fire suppression operations from the interior of the building and can perform rescue or that provide Operations-level hazardous materials response.	All job performance requirements in item 7 and the following job performance requirements of NFPA 1021, “Standard for Fire Officer Professional Qualifications”, 2020 edition, Chapter 4 (Fire Officer I): 4.1.1, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.4.1, 4.4.2, 4.4.4, 4.4.5, 4.5.3, 4.6, 4.7.1, 4.7.3	July 1, 2026
16	Team Lead Interior Attack, auto extrication, and hazardous materials response: Supervision of firefighters that provide fire suppression operations from the interior of the building and can perform rescue or that provide automobile extrication rescue or Operations-level hazardous materials response (full-service fire officer).	All job performance requirements of NFPA 1021 “Standard for Fire Officer Professional Qualifications”, 2020 edition, Chapter 4 (Fire Officer I).	July 1, 2026
17	Pump Operations: Operation of a pumper apparatus without driving the apparatus, or where the apparatus does not require a class D licence.	All job performance requirements of NFPA 1002, “Standard for Fire Apparatus Driver/Operator Professional Qualifications”, 2017 Edition, Chapter 5 (Apparatus Equipped with Fire Pump), without pre-requisites in Chapter 4.	July 1, 2026
18	Pump Operations: driver: Driving and operating a pumper apparatus that requires a class D licence.	All job performance requirements in NFPA 1002 “Standard for Fire Apparatus Driver/Operator Professional Qualifications”, 2017 Edition, Chapter 5 (Apparatus Equipped with Fire Pump).	July 1, 2026
19	Fire Prevention/Inspection Level I: conducting fire and life safety inspections.	All job performance requirements of NFPA 1031, “Standard for Professional Qualifications for Fire Inspector and Plan Examiner”, 2014 Edition, Chapter 4 (Fire Inspector I).	July 1, 2026

Item	Fire protection service	Minimum Certification Standard	Compliance Deadline
20	Fire Prevention/Inspection Level II: conducting fire and life safety inspections including in facilities that store, handle or use flammable/combustible liquids.	All job performance requirements in item 19 and NFPA 1031, “Standard for Professional Qualifications for Fire Inspector and Plan Examiner”, 2014 Edition, Chapter 5 (Fire Inspector II).	July 1, 2026
21	Fire Investigator: conducting fire cause and origin investigations.	All job performance requirements of NFPA 1033, “Professional Qualifications for Fire Investigator”, 2014 Edition, Chapter 4 (Fire Investigator).	July 1, 2026
22	Fire and Life Safety Educator: providing fire and life safety education.	All job performance requirements of NFPA 1035, “Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist, and Youth Firesetter Program Manager Professional Qualifications”, 2015 Edition, Chapter 4 (Fire and Life Safety Educator I).	July 1, 2026
23	Training Officer Level I: providing training and education to other fire personnel.	All job performance requirements of NFPA 1041, “Standard for Fire and Emergency Services Instructor Professional Qualifications”, 2019 Edition, Chapter 4 (Fire and Emergency Services Instructor I).	July 1, 2026
24	Training Officer Level II: providing training and education to other fire personnel including lead instructor roles at live fire and above or below grades technical rescue practical training.	All job performance requirements in item 23 and NFPA 1041, “Standard for Fire and Emergency Services Instructor Professional Qualifications”, 2019 Edition, Chapter 5 (Fire and Emergency Services Instructor II).	July 1, 2026
25	Emergency Communicators Level I: taking emergency calls.	All job performance requirements of NFPA 1061, “Standard for Public Safety Telecommunications Personnel Professional Qualifications”, 2018 Edition, Chapter 4 (Public Safety Telecommunicator I).	July 1, 2026
26	Emergency Communicators Level II: taking emergency calls and dispatching emergency vehicles.	All job performance requirements in item 25 and NFPA 1061, “Standard for Public Safety Telecommunications Personnel Professional Qualifications”, 2018 Edition, Chapter 5 (Public Safety Telecommunicator II).	July 1, 2026

Item	Fire protection service	Minimum Certification Standard	Compliance Deadline
27	Incident Safety Officers: undertaking the primary role of incident safety officer at emergency calls.	All job performance requirements of NFPA 1521, “Standard for Fire Department Safety Officer Professional Qualifications”, 2020 Edition, Chapter 5 (Incident Safety Officer).	July 1, 2026
28	Hazardous Materials Response — Operations Mission Specific Level: responding to emergencies involving hazardous materials at the Operations Mission Specific Level.	All job performance requirements of NFPA 1072, “Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications”, 2017 Edition, Chapter 6 (Operations Mission Specific)	July 1, 2026
29	Hazardous Materials Response — Technician Level: responding to emergencies involving hazardous materials at the Technician Level.	All job performance requirements of NFPA 1072, “Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications”, 2017 Edition, Chapter 7 (Hazardous Materials Technician).	July 1, 2026
30	Rope Rescue — Operations: rope rescue at the Operations Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 5 (Rope Rescue) (Operations): 5.2	July 1, 2028
31	Rope Rescue — Technician: rope rescue at the Technician Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 5 (Rope Rescue) (Technician): 5.3	July 1, 2028

Item	Fire protection service	Minimum Certification Standard	Compliance Deadline
32	Structural Collapse — Operations: structural collapse rescue at the Operations Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 6 (Structural Collapse Rescue) (Operations): 6.2	July 1, 2028
33	Structural Collapse — Technician: structural collapse rescue at the Technician Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 6 (Structural Collapse Rescue) (Technician): 6.3	July 1, 2028
34	Confined Space — Operations: confined space rescue at the Operations Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 7 (Confined Space Rescue) (Operations): 7.2	July 1, 2028
35	Confined Space — Technician: confined space rescue at the Technician Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 7 (Confined Space Rescue) (Technician): 7.3	July 1, 2028
36	Trench Rescue — Operations: trench rescue at the Operations Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 12 (Trench Rescue) (Operations): 12.2	July 1, 2028

Item	Fire protection service	Minimum Certification Standard	Compliance Deadline
37	Trench Rescue — Technician: trench rescue at the Technician Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 12 (Trench Rescue) (Technician): 12.3	July 1, 2028
38	Surface Water Rescue — Operations: surface water rescue at the Operations Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 17 (Surface Water Rescue) (Operations): 17.2	July 1, 2028
39	Surface Water Rescue — Technician: surface water rescue at the Technician Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 17 (Surface Water Rescue) (Technician): 17.3	July 1, 2028
40	Swift Water Rescue — Operations: swift water rescue at the Operations Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 18 (Swiftwater Rescue) (Operations): 18.2	July 1, 2028
41	Swift Water Rescue — Technician: swift water rescue at the Technician Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 18 (Swiftwater Rescue) (Technician): 18.3	July 1, 2028

Item	Fire protection service	Minimum Certification Standard	Compliance Deadline
42	Ice Water Rescue — Operations: ice water rescue at the Operations Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 20 (Ice Rescue) (Operations): 20.2	July 1, 2028
43	Ice Water Rescue — Technician: ice water rescue at the Technician Level.	The following job performance requirements of NFPA 1006, “Standard for Technical Rescue Personnel Professional Qualifications”, 2021 Edition, Chapter 20 (Ice Rescue) (Technician): 20.3	July 1, 2028

Appendix F: Fire Prevention Staffing Model

OBC Building Class	Inspection Frequency (Years)	NFPA 1730	FUS	Meet		Classification	FTE #'s
A	3	2	0.5	✓	67%	Chief FPO	1
B	1	1	0.5	✓	100%	FPO	0
C	2	2	0.5	✓	100%	Inspector	3
D	3	3	1	✓	33%	Public Educator	0
E	3	3	1	✓	33%		
F	3	2	0.5	✓	50%		
F - Division 1	2	1	0.25	✓	50%	Total	4
Efficiency Factor	75%						8.25
	Calculated	Adjusted				Total additional FPO Staff Required	4.3
Inspectors Required (Inspections)	3.55	4.73					
Inspectors Required (Other Activities)	2.64	3.52					
	6	8.25					
Number of Staff Required		8					
Number of additional Staff Required		4					

CAPACITY PLANNING MODEL BY BUILDING GROUP TYPE

		Method of Inspection	Number of Buildings in Group (A)	Average Time to Complete Initial Inspection (Hours) (B)	Average Time to Complete Recall Inspection (Hours) (C)	Average Time to Complete Initial & Recall Inspection (Hours) (D)	Total Time to Inspect Group (Hours) (A x B)	Frequency of Inspections (Every 1, 2, 3 or 4 Years)	Total Time Each Year to Inspect Group (Person Weeks) (A x B)	Total Time to Inspect Group (Person Years) (A x B)
Group A	Assembly occupancy (Group `A) means the occupancy or the use of a building , or part thereof, by a gathering of persons for civic, political, travel, religious, social, educational, recreational or like purposes or for the consumption of food or drink.		133	2.5	0.625	3.125	415.625	2	5.20	0.10
Group B	Institutional occupancy (Group `B) means the occupancy or use of a building or part thereof by persons who require supervisory care, medical care or medical treatment or by persons who are under restraint for correctional purposes and are incapable of self preservation because of security measures not under their control.									
	Nursing Homes		0	4	1	5	0	1	0.00	
	Special Care		1	2	0.5	2.5	2.5	1	0.06	
	Assisted -Supportive Living Facility		3	2	0.5	2.5	7.5	1	0.19	
	Group Homes		26	2	0.5	2.5	65	1	1.63	
	Detention Police		1	3	0.75	3.75	3.75	1	0.09	
	Hospital		1	8	2	10	10	1	0.25	
Group C	Residential occupancy (Group `C) means the occupancy or use of a building or part thereof 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.									
	LOW RISE		133	3	0.75	3.75	498.75	2	6.23	
	HIGH RISE		27	4	1	5	135	2	1.69	
	ROOMING, BOARDING, LODGING		0	4	1	5	0	2	0.00	
	Apartment		700	2	0.5	2.5	1750	2	21.88	
	HOTEL, MOTEL, MOTOR LODGE		12	3	0.75	3.75	45	2	0.56	
	SINGLE, SEMI, TOWNHOUSE, CONDO		46,979	N/A	N/A	N/A	N/A	N/A	N/A	
	OTHER RESIDENTIAL		0	1	0.25	1.25	0	2	0.00	

CAPACITY PLANNING MODEL BY BUILDING GROUP TYPE (cont.)

CAPACITY PLANNING MODEL BY BUILDING GROUP TYPE (cont.)			Method of Inspection	Number of Buildings in Group (A)	Average Time to Complete Initial Inspection (Hours) (B)	Average Time to Complete Recall Inspection (Hours) (C)	Average Time to Complete Initial & Recall Inspection (Hours) (D)	Total Time to Inspect Group (Hours) (A x B)	Frequency of Inspections (Every 1, 2, 3 or 4 Years)	Total Time Each Year to Inspect Group (Person Weeks) (A x B)	Total Time to Inspect Group (Person Years) (A x B)	
Group D	Business and personal services occupancy (Group `D`) means the occupancy or use of a building or part thereof for the transaction of business or the rendering or receiving of professional or personal services.			397	1.5	0.375	1.875	744	3	6.20	0.12	
Group E	Mercantile occupancy (Group `E`) means the occupancy or use of a building or part thereof for the displaying or selling of retail goods, wares or merchandise.			253	2	0.5	2.5	633	3	5.27	0.10	
Group F	Industrial occupancy (Group `F`) means the occupancy or use of a building or part thereof for assembling, fabricating, manufacturing, processing, repairing or storing of goods and materials.			686	3	0.75	3.75	2,573	3	21.44	0.41	
Group F Division 1	High hazard industrial occupancy (Group `F` Division 1) means an industrial occupancy that contains sufficient quantities of highly combustible and flammable or explosive materials that, because of their inherent characteristics, constitute a special fire hazard.			4	6	1.5	7.5	30	1	0.75	0.01	
				2,377								3.55
Plans Examination	Examination of building plans, blueprints and drawings for new building construction and site inspections of same			90	2	0	2	180	1	4.50	0.09	
Complaint Inspections	Inspections done to address complaints of possible Fire Code violations or general fire and life safety concerns			1771	1	0.25	1.25	2213.75	1	55.34	1.06	
Request Inspections	Inspections by owners to address concerns in their building			38	1.5	0	1.5	57	1	1.43	0.03	

**CAPACITY PLANNING MODEL
(ADDITIONAL SERVICES PROVIDED)**

		Method of Inspection	Average Number of Inspections per Year	Average Time to Complete Initial Inspection (Hours) (B)	Average Time to Complete Recall Inspection (Hours) (C)	Average Time to Complete Initial & Recall Inspection (Hours) (D)	Total Time to Inspect This Type (Hours) (A x B)	Frequency of Inspections (Every 1, 2, 3 or 4 Years)	Total Time Each Year to Inspect This Type (Person Weeks) (A x B)	Total Time to Inspect This Type (Person Years) (A x B)
Information Inspections	Inspections done for third parties (ie. Lawyers, Insurance Companies, Banks, etc.)		35	2	0	2	70	1	1.75	0.03
Court and Prep Time			5	8	0	8	40	1	1.00	0.02
Business License Inspections			120	1	0.5	1.5	180	1	4.50	0.09
Fire Safety Plan Review			0	7	2	9	0	1	0.00	0.00
Public Education			277	2	1	3	831	1	20.78	0.40
Other Inspections			739	2	0.5	2.5	1,848	1	46.19	0.89
Fire Investigations	Investigations into the cause and origin of a fire		12	6	0	6	72	1	1.80	0.03
Preplanning	# of preplan creations		0	1	0	1	0	1	0.00	0.00
Total =										2.64 3.55 6.2

Adjusted - Effcy Factor = 8