Township of Adjala-Tosorontio

Fire Master Plan 2024

Township of Adjala-Tosorontio

EMG Emergency Management Group

Emergency Management Group Inc.
65 Cedar Pointe Drive, Suite 144, Barrie ON, L4N 9R3
705.719.9007/ 888.421.0665

EXECUTIVE SUMMARY

This Fire Master Plan (FMP) encompasses a comprehensive review of strengths, weaknesses, opportunities, and challenges of the Adjala-Tosorontio Fire Department (ATFD). This FMP also consists of a review of the community (through the development of a separate Community Risk Assessment (CRA) report), along with identifying current and future population statistics and anticipated community growth. This 10-year planning document is a result of the analysis conducted.

Benefits of Master Planning

The benefits of planning are many, but the key advantages are:

Having a clearer vision of what future needs are to be implemented and when.

A guide that includes options and budgetary estimates for implementation.

Prioritization of each project.

The ability to communicate with staff and internal and external stakeholders about the organization's future goals.

The recommendations within this FMP document serve as a set of strategies and goals for implementation that are aimed at assisting the Council in making decisions relating to the efficient allocation of ATFD resources and staffing.

The recommendations provided by Emergency Management Group Inc. (EMG) have been broken down into the following timelines:

Immediate: 0 – 1 year**:** which should be addressed as soon as possible due to legislative or health and safety requirements, or other immediate needs.

Short-term: 1 – 3 years

Mid-term: 4 – 6 years

Long-term: 7 – 10 years

Ultimately, the implementation of the recommendations will depend on the direction that the Town Council provides, as well as the allocation of associated resources and the ability to move forward with the related recommendations contained within the document.

Scope of Requirements

The scope of requirements for this FMP were to ultimately provide a plan for the future of Fire and Emergency Services for the Town of Adjala-Tosorontio (the Town), aligning with Council's Strategic Plan, federal and provincial directions, and trends, with realistic and achievable short (3 years), medium (4-7 years) and long-term (8-10 years) goals and strategies. This was accomplished through addressing the following:

- Identification of the risks faced by the fire service now and well into the future so that EFD can develop and deliver mitigation strategies.
- A plan for programs, services, budgets, facilities, and assets be closely aligned with ideas and initiatives which are generated and supported by the community by outlining the process for an ongoing loop of information exchange, engagement, feedback and consultation and the necessary mechanisms and tools (and budgets) to support it.
- A document that guides municipal planning, budgeting decisions, staffing and achievable service standards so that considerations are included in municipal decision making (must meet *Accessibility for Ontarians with Disabilities Act (AODA)* requirements).
- A guide to give direction for future work plans, partners, projects, and budgets in the development of future programs, infrastructure, including identifying funding, technological, facility improvements, partnership opportunities both public and private.
- A complete assessment of the current inventory and adequacy of apparatus, equipment, and facilities.
- Identify department potential savings and efficiencies.
- Create a plan to address growth and future demands for services based on the needs of the community.
- Define current and future trends, community needs.

Summary Overview of Recommendations

Based on the information received during the meetings, a review of supplied documentation, and reference to industry standards and best practices, there are 48 recommendations for consideration and inclusion by the fire chief, senior management, and council to assist in the development of the plan.

More information surrounding each recommended option can be found within the section from which it is derived.

Each recommendation noted in the following chart has been presented in order of suggested implementation timeline, along with estimated cost and a brief rationale for the recommendation. This will assist the Fire Chief and Council in identifying budgetary needs for any recommendations requiring significant investments.

It must be emphasized that any cost estimates noted in this document can vary significantly based on when the option is implemented (costs can change through the years), and whether the actions taken for implementation vary from the original recommendation (the Fire Chief may choose to make alterations).

Note: A chronological recommendations chart can be found in Section 9. This chart has also included brief rationale comments to assist the reader with justification for each recommendation.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
1	Review and update all SOGS, including establishing an SOG Committee that meets on a pre-determined schedule and operates under newly developed Terms of Reference.	Immediate (0 to 1 year)	Staff Time Pending the decision to establish a SOG Committee, there may be a financial impact on the	Current SOGS provide clear direction on the expected operations of the EFD.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
			budget for firefighter participation.	
8	The ATFD creates a Training Division, where the division is under the tutelage of either the Fire Chief or the Deputy Chief and where the coordination of the division is the responsibility of a staff with the rank of Assistant Deputy Chief with oversight of the training across both stations.	Immediate (0 to 1 year)	Staff Time Only	The ATFD's silo training model creates a decentralized training management system that results in the questionable fiscal management of training and inequitable training delivery affecting the overall efficient and effective training and education operability of the ATFD.
9	The Training Division to be staffed with an officer in the rank of Assistant Deputy Fire Chief (Training Officer roles and responsibilities).	Immediate (0 to 1 year)	OPTION A: ATFD hires a full-time Assistant Deputy Fire Chief of Training. There would be wages and salaries increase of approximately $100K to $120K. OPTION B: ATFD creates a volunteer Assistant Deputy Fire Chief of Training.	The creation of a Training Division would require the creation of a new position. Although EMG's analysis suggests that 4 (3.96) full-time staff would be required to support ATFD training needs adequately, EMG believes that **one full-time dedicated Training Officer** supported by a **Training Clerk** responsible for the day-to-day administration of records and clerical duties associated with program development, lesson plans, scheduling, etc., would suffice to administer the ATFD training needs adequately. The full-

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
			Renumeration should be appropriate for the workload and level of responsibilities required of the position. OPTION C: In this FMP, EMG proposed the hiring of a Fire Prevention Officer. ATFD could hire a full-time Assistant Deputy Fire Chief with dual responsibilities of Prevention and Training. The "dual responsibilities" are feasible if training delivery and public fire and life safety education functions are supported by dedicated volunteer from each station	time training officer would coordinate and supervise training delivery through the assistant district chiefs and captains as per the current model. A full-time Training Officer would provide consistency and uniformity in training delivery.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
11	The ATFD ensures that any training props comply with NFPA 1402, *Standard on Facilities for Fire Training and Associated Props*.	Immediate (0 to 1 year)	Staff time only	NFPA 1402 provides guidance for the planning of fire service training centers, focusing on the main components necessary to accomplish general fire fighter training effectively, efficiently, and safely.
12	The ATFD create a Live Fire Training SOG to support their live fire training efforts.	Immediate (0 to 1 year)	Staff Time Only	The most frequently cited contributing factors in the National Firefighter Near-Miss Reporting System are situational awareness and decision-making. In the live-fire training environment, both skills are crucial to the operation's success and can be repeatedly practiced and fine-tuned. A SOG will solidify the importance of live-fire training.
13	The ATFD sets its HAZMAT training to the OPERATIONS Level to adhere to their core service as prescribed in the By-Law 2023-42 and to adhere to the MOU with the City of Barrie regarding provisions of special operations services.	Immediate (0 to 1 year)	Staff Time Only	The By-Law states that the City of Barrie provides HAZMAT OPERATIONS and TECHNICIAN Levels through a memorandum of understanding (MOU) adopted through the Township of Adjala-Tosorontio By-Law 22-102 and By-Law 22-101. However, the MOU stipulates the Township of Adjala-Tosorontio shall

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
				"provide additional personnel, equipment, support, and agencies as may be requested by BFES". Training to the HAZMAT AWARENESS Level does not provide adequate knowledge and expertise to support BFES in case of a HAZMAT response. This risk can be managed by ascertaining that the ATFD trains its firefighters to NFPA 1072 OPERATIONS Level.
14	The Township of Adjala-Tosorontio By-Law 2023-42 should be updated to align technical rescuer core services with wording from Table 1 of the Ontario Regulation 343/22. Secondly, all staff should be trained to the OPERATIONS level for any technical rescuer core service identified in the Township of Esa By-Law 2023-42. Thirdly, all technical rescuer training programs should be monitored to adhere to the NFPA 1006: *Standard for Technical Rescue Personnel Professional Qualifications* and in accordance with Ontario Regulation 343/22: *Firefighter Certification*.	Immediate (0 to 1 year)	Staff time Only	Aligning wording in the By-Law with O.Reg. 343/22 will avoid misunderstanding as to the adequate level of service provided and to avoid unnecessary training expenses. This standard specifies the minimum requirements for the ATFD-identified levels of functional capability for conducting operations at technical search and rescue incidents while minimizing threats to rescuers. Like the HAZMAT training conundrum, the current technical rescuer training at the AWARENESS Level contravenes the Township's responsibility prescribed in

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
	Finally, EMG also recommends that the ATFD aligns its technical rescuer operations and training to NFPA 2500: *Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services*.			the MOU with the City of Barrie, where ATFD's training does not provide adequate knowledge and expertise to provide support to BFES in case of a TECHNICAL RESCUE response.
28	The Township must install backup power at each radio transmission site, including batteries and a generator.	Immediate (0 to 1 year)	$60,000 to $75,000	Uninterrupted radio communication is paramount in emergency services.
32	ATFD invests in decontamination equipment and develops the appropriate Policies and SOGs to decontaminate firefighters at the fire scene.	Immediate (0 to 1 year)	Staff Time Required to develop the policies and SOGs, and approximately $5,000.00 is required for decontamination equipment.	To reduce the risk of exposure to carcinogens, begin at the fire scene by cleaning the bunker gear and not transporting it back to the station in the cab of the apparatus.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
34	Purchase automatic standby generators for both fire stations to energize the entire building. Consider larger than required so they may be moved to the new stations when they come online.	Immediate (0 to 1 year)	$100,000	Having a reliable power source during an outage will ensure apparatus may respond without delay and firefighters may move about without the risk of injury.
46	EMG recommends that the ATFD investigate the return on investment of the Rosemont District Fire Department providing fire protection for the response area of the Township of Adjala-Tosorontio identified in Schedule "A" of By-Law 19-13.	Immediate to Short-Term (0-3 years)	Staff Time Only	The fact that the ATFD can adequately provide the fire protection services to the area covered by the Rosemont District Fire Department suggests that the expense may not be justified. Potential to achieve savings upward of 100K.
47	The ATFD reviews the specific costs that are contained within the Development Charge policy with a view to increasing the allocation for fire services and fully identifying those future costs which could be attributed to growth (new or increased fire station size and fleet needs).	Immediate to Short-Term (0-3 years)	Staff Time Only	With revenue generation in mind, during the next Development Charge review process, the Township of Adjala-Tosorontio's anticipated growth and its impact on emergency services should be factorized in the formula applied for fees and charges.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
48	The ATFD reviews By-Law 20-20 to elaborate on the third-party cost recovery service agreement and itemize the revenue generation for the ATFD.	Immediate to Short-Term (0-3 years)	Staff Time Only	To ensure future prosperity for the fire cost recovery agreement and allocation of the funds
2	With the completion of the CRA and this FMP, the Fire Chief should utilize the components of the two documents' recommendations for developing and implementing the CRRP.	Short-Term (1-3 years)	Staff Time Some recommendations may include associated costs	Keeping track of the CRA and FMP recommendations, along with implementation and outcomes resulting from the recommendations, will ensure proper tracking and accountability.
3	Review input received from the surveys to identify further opportunities for the department and the community it serves in relation to educating the public on fire department operations and available services.	Short-Term (1-3 years)	Staff Time Some recommendations may include associated costs	Keeping track of the input received from the surveys can result in implementing new ideas, and sharing this information with staff will also support the value of their input.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
4	The ATFD hires a second Administrative Assistant.	Short-Term (1 to 3 years)	To start as part-time for an estimated cost of $25,000 to $35,000 annually. Eventually moved into a full-time position at a cost (with benefits) could be in the amount of $50,000 to $60,000 annually.	This administrative support model allows for support for both the Fire Prevention and Training Divisions. With community growth, there will be an increase in fire prevention inspections, along with the need for someone to keep track of all staff training and certification records. The present Administrative Assistant is already at full capacity and will require support.
5	ATFD continues to invest in its fire cause and determination program through certification and continuing educational opportunities for designated members with supporting SOGs.	Short-Term (1-3 years)	Staff Time	Comprehensive fire cause determination efforts help to direct fire prevention and public education efforts to community-specific needs.
6	ATFD review its current inspection practices with a view to changing from a report-based practice to that of an order-based practice.	Short-Term (1-3 years)	Staff Time	This will facilitate an easier prosecution process should it be necessary to move non-compliant buildings to a state of compliance.
7	ATFD examines opportunities to digitize its fire inspection reporting and record keeping practices, including handheld computing devices for inspectors.	Short-term (1-3 years)	Staff Time	The use of handheld computing devices (i.e., tablets) can optimize administrative-related inspection and reporting activities, saving time.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
10	The ATFD adopts a remuneration policy for appointed instructors/trainers.	Short-Term (1 to 3 years)	Salary cost increase will be incurred. Amount will depend on determined rates.	To ensure the quality of instructors and quality of instructions, including certification to NFPA 1041: *Standard for Fire and Emergency Services Instructor Professional Qualifications*.
15	The fire suppression training be streamlined to ensure standard and uniformity of training to all firefighters.	Short-Term (1 to 3 years)	Staff Time Only	This can be accomplished through universal lesson plans and an annual training schedule with a single subject-matter trained at both stations and through joint training exercises. The ATFD should implement the utilization of the Learning Management System called FLMS for both fire stations.
16	The ATFD trains all its firefighters to Fire and Life Safety Educator Level 1 and that the ATFD captains also be trained as Public Information Officer, under the NFPA 1035.	Short-Term (1 to 3 years)	Cost of training will be required. OFC offers an online training at $65.00 per student.	ATFD are innovative in engaging their firefighter in public fire and life safety education. Training for all staff will augment the program profile and its efficiency and effectiveness.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
17	The District Chief at each station should be certified to NFPA 1031 Fire Inspector Level 1.	Short-Term (1 to 3 years)	Cost of training will be required. OFC offers an online training at $65.00 per student.	Ideally, both district chiefs and all captains should be trained and certified to NFPA 1031 Fire Inspector Level 1 to meet the goals set in The Township of Adjala-Tosorontio By-Law 2023-42 pertaining to FIRE PREVENTION – Core Services.
18	The ATFD Fire Prevention policy addresses training requirements and that the training requirements for Fire Prevention which should be set at Level 2 of NFPA 1031: *Standard for Professional Qualifications for Fire Inspector and Plan* Examiner be added to the program development and delivery of the ATFD.	Short-Term (1 to 3 years)	Staff Time Only	With the adoption of Ontario Regulation 343/22, made under the FPPA, 1997, it will become incumbent on the ATFD to take a more active role in testing and certification to NFPA 1031 and NFPA 1035. ATFD's policy should align with the regulation's certification requirements set in Tab le1.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
19	The ATFD dedicated fire investigators be concurrently certified to NFPA 1033 and NFPA 921; that the fire investigation operations and training adhere to NFPA 1231: *Standard for Fire Investigation Units*, and that the ATFD be responsible for monitoring, record keeping, testing, and certification to the said NFPA standards.	Short-Term (1 to 3 years)	Cost of training will be required. OFC and RTCs offer a fire investigation training. It is estimated that cost of external training would equate to approximately $2,500 per student.	The Ontario Regulation 343/22 sets the fire investigator certification requirements to NFPA 1033. Qualification for NFPA 921 is essential because it is the companion guide to the NFPA 1033.
20	The ATFD expand its investment in its Learning Management System - FLMS to effectively capture all training records and that customization be programmed to ensure a smooth transfer of data from the LMS to the ATFD Administrative database (currently FIREHOUSE).	Short-Term (1 to 3 years)	ATFD has already adopted the Stillwaters Learning Management System called FLMS. Cost should be minimal.	The ATFD training reports and records do not align with NFPA 1401: *Recommended Practice for Fire Service Training Reports and Records* and Part 7 of the Section 21 Guidance Notes. The two stations have different means of keeping records. Although ATFD LMS has recordkeeping capabilities, it is not used to record training. Most training records are tracked manually. Manually recorded training records are then forwarded to the ATFD Administrative Assistant, who enters the information in the fire department record management software called FIREHOUSE.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
21	The ATFD invests in developing a promotional process for firefighter increment, captain, district chief, and assistant district chief positions.	Short-Term (1 to 3 years)	Staff Time Only	The ATFD do not have or have outdated promotional policy/SOGs. Procedures and processes are not prescribed in dedicated promotional policies or SOGs, resulting in departmental productivity deficiencies and morale issues.
22	ATFD to participate in the SCPA Quality Care Program in patient care and training.	Short Term (1 to 3 years)	Staff Time/Stipend plus disposable medical supplies	Doing so would ensure the quality of care consistent with the training and program monitoring. In the end, the patient receives an enhanced level of treatment.
23	ATFD trains and permits firefighters to administer Naloxone to patients who have experienced an opioid overdose and Epinephrine to those with an allergic reaction.	Short Term (1 to 3 years)	Staff Time/Stipend	Permitting firefighters to administer Naloxone and Epinephrine will enhance ATFD's patient care, possibly saving lives.
24	At least two members of ATFD are trained to the operations level in elevator rescues per the TSSA Standard.	Short Term (1 to 3 years)	Staff Time plus training and possibly some hand tools.	Having at least two members trained in this discipline permits ATFD to meet its due diligence in ensuring the members of ATFD are trained to the awareness level.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
25	Update the automatic Aid Agreement with the Township of Clearview for fire protection in the Township of Adjala-Tosorontio, which includes expanding the response zone to the 30th Sideroad.	Short-Term (1 to 3 years)	Staff Time	Expanding the response boundary provides enhanced service provision to several residents residing in the new area of the agreement.
26	The ATFD ensures SOGs, training and specialized equipment to fight fires involving lithium-ion batteries found in vehicles, scooters and motorbikes.	Short-Term (1 to 3 years)	Staff Time The cost of training programs and specialized equipment has yet to be determined. Early estimates for the Emergency Plug are USD 1,000.00.	Even though they have been on the market for some years, electric vehicles present a high rate of fires involving lithium-ion batteries. Many fires have occurred involving the charging of scooters and e-bikes with the same battery type.
27	Include references to NFPA 1225 in the Township of Adjala-Tosorontio's dispatch agreement with the City of Barrie.	Short-Term (1 to 3 years)	Staff Time	This addition to the agreement will identify expected competencies and service provisions from Barrie Fire's Communications Division.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
29	ATFD arranges for the programming of the radio frequencies of the surrounding fire services from outside the County of Simcoe in all ATFD mobile and portable radios	Short-Term (1 to 3 years)	$7,000 to $15,000	ATFD often responds with fire services outside the County of Simcoe; having the ability to communicate with them is necessary for seamless operations.
30	The Township of Adjala-Tosorontio establishes a reserve account for covering expenditures incurred while implementing NG 9-1-1.	Short-Term (1 to 3 years)	Costs have yet to be determined by the Federal Government and passed onto lower-tier municipalities.	Having funds set aside will lessen the impact of unexpected costs associated with this technological change.
31	ATFD must develop an all-around wellness program focusing on cancer prevention measures and a mental wellness program.	Short-Term (1 to 3 years)	Staff Time	It is well documented how fitness aids members in having a healthy lifestyle that may reduce the incidence of injury and illness.
33	Council and ATFD revisit the pay structure and consider returning to the previous wage scale of two hours of pay for the first hour and one hour of pay for each hour after that.	Short-Term (1 to 3 years)	$125,000 to $200,000	Returning the pay rate to the previous policy will provide extra income as a thank-you to the members for their service to the community. Paying the extra funds may reduce the exposure of training recruits because members have left as the compensation was insufficient.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
36	Enter into a response agreement with the Town of New Tecumseth for them to respond with an aerial device into the Township of Adjala-Tosorontio.	Short-term (1 to 3 years)	Staff time with the additional standby fee of approximately $3,000.	A response agreement will ensure that an aerial device will respond to incidents in the Township of Adjala-Tosorontio without delay. The Fees and Charges by-law needs to include full-cost recovery whenever there is an aerial response from the New Tecumseth Fire Rescue into the Township.
37	ATFD needs to develop its Respiratory Program.	Short-Term (1 - 3 Years) Ongoing	Staff Time	This program is an industry standard and best practice. It also aids in ensuring the health and safety of firefighters when wearing respiratory protection devices.
38	The Township needs to direct those responsible for the maintenance of the hydrants to inspect all fire hydrants and test as required in Section 6.6 of the *Ontario Fire Code* and NFPA 291, *Recommended Practises of Fire Flow Testing and Marking of Hydrants*.	Short-Term (1 - 3 Years	Staff Time and Costs	Doing so will ensure compliance with the Ontario Fire Code.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
39	EMG recommends that the Emergency Management Program Committee (EMPC) establish regular, bi-annual meetings that are "minuted" and reported to Township Council.	Short-Term (1-3 years)	Staff Time	To bring more focus and awareness to the emergency planning activities that are occurring in the Township.
40	EMG recommends that the Emergency Management Program Committee establish an annual work plan to ensure that activities necessary for compliance with the EMPCA are conducted and completed promptly and that this plan includes a fulsome review of the Critical Infrastructure Inventory.	Short-Term (1-3 years)	Staff Time	To bring clarity to the work associated with the annual compliance initiatives under the EMPCA, proactively assign work items to individuals for accountability purposes and update the CII as this forms an essential part of the community's plan.
41	EMG recommends that the town move to conduct a functional or full-scale emergency exercise within the next 1-3 years as the next logical step in program development and to test the municipal plan and community resources more fully.	Short-Term (1-3 years)	Staff Time	To identify shortcomings in the existing plan and identify opportunities for improvement.
42	EMG recommends establishing a budget line specifically for "Community Emergency Planning Initiatives" within the annual operating budget.	Short-Term (1-3 years)	To Be Determined.	To allow broader community education efforts and establish a funding pool for exercise design and implementation.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
43	Adjala-Tosorontio Fire Department needs to review and update, as necessary annually all response and automatic aid agreements.	Short-Term (1-3 years)	Staff Time	Maintaining an up-to-date agreement will ensure the communities receive fire service protection that meets current and future circumstances.
44	The ATFD must review and prepare the Mutual Aid Participation By-law 06-48 for the Council's Approval.	Short-Term (1-3 years)	Staff Time	By-laws and Agreements need reviewing and updating annually to ensure they are current and meet the community's needs. The current Mutual Aid By-law received the Council's approval in 2006.
45	Include in the Fees and Charges By-law responding to and mitigating technical rescues at full cost recovery.	Short-Term (1-3 years)	Staff Time	Including this charge in the by-law ensures that local taxpayers do not bear the cost of mitigating technical rescues, which can cost thousands of dollars.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
35	The Township of Adjala-Tosorontio, during their 2024 budget deliberations, established a reserve for the construction of a new Station 1.	Short to mid-term (1 to 6 years)	$6.0 to $7.5 million.	Station 1 is at the end of its life span as a fire station. Several amenities not in the present station would be advantageous to have. Some for the reduction of the risk of contracting cancer. Delays will result in higher construction costs the longer they are delayed. Analyze the option of leasing a building for a fire station. Consider working in cooperation with a developer.

TABLE OF CONTENTS

ACRONYMS

ADC	Assistant District Chief
AHJ	Authority Having Jurisdiction
AODA	Accessibility for Ontarians with Disabilities Act
ATFD	Adjala-Tosorontio Fire Department
BFC	Barrie Fire Control
BFES	Barrie Fire and Emergency Services
BLS	Basic Life Support
CACC	Central Ambulance Communications Centres
CAD	Computer Aided Dispatch
CAFC	Canadian Association of Fire Chiefs
CAFI	Canadian Association of Fire Investigators
CAO	Chief Administrative Officer
CEMC	Community Emergency Management Coordinator
CERB	Central Emergency Reporting Bureau
CFAI	Commission on Fire Accreditation International
CFES	Clearview Fire and Emergency Services
CO	Carbon monoxide
CRA	Community Risk Assessment
CRR	Community Risk Reduction (Plan)
CRTC	Canadian Radio-television and Telecommunications Commission
E&R	Establishing and Regulating (By-law)

ACRONYMS

EAP	Employee Assistance Program
EMG	Emergency Management Group Inc.
EOC	Emergency Operations Centre
ESA	Electrical Safety Authority
FESO	Fire and Emergency Services Organization
FMP	Fire Master Plan
FPO	Fire Prevention Officer
FPPA	Fire Protection and Prevention Act
FUS	Fire Underwriters Survey
HAZMAT	Hazardous material
IAAI	International Association of Arson Investigators
IFSTA	International Fire Service Training Association
KPIs	Key performance indicators
LMS	Learning Management System
LWC	Lightweight construction
MOU	Memorandum of Understanding
NFCP	National Fireworks Certification Program
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
OAFE	Ontario Association of Fire Educators

ACRONYMS

OBC	Ontario Building Code
OFC	Ontario Fire Code
OFM	Office of the Fire Marshal
OHSA	Occupational Health and Safety Act
OMFPOA	Ontario Municipal Fire Prevention Officer's Association
OSI	Occupational Stress Injuries
PAD	Public assess defibrillator
PFLSE	Public Fire Life Safety Educator
POC	Paid-on-call
PPE	Personal protective equipment
PTSD	Post-Traumatic Stress Disorder
RDFB	Rosemont District Fire Board
RDFD	Rosemont District Fire Department
RFP	Request for Proposal
RMS	Record Management System
SCBA	Self-contained breathing apparatus
SCPS	Simcoe County Paramedic Services
SOG	Standard Operating Guideline
SOP	Standard Operating Procedure
SWF	Standard Workload Flow
SWOT	Strengths, weaknesses, opportunities, and threats

ACRONYMS

TIC	Thermal Imaging Camera
WETT	Wood Energy Technology Transfer
WSIB	Workplace Safety & Insurance Board

Introduction

INTRODUCTION

Project Methodology

EMG has conducted its review based on the Town's initial Request for Proposal (RFP) and the subsequent response document submitted by our firm. The specific scope of work identified in the RFP was reviewed and addressed in each section of this document. The FMP review was completed utilizing best practices, current industry standards, and applicable legislation as the foundation for all work undertaken.

EMG also utilized quantitative and qualitative research methodologies to develop a strong understanding of the community's current and future needs and circumstances. Overall, the methodology involves a considerable amount of research, documentation review, data analysis, and stakeholder consultation. It further involves the submission of draft reports and related recommendations. The final product is a living document that provides high-level strategic direction for Council and the Fire Department.

To accomplish the scope of requirements, EMG has:

- Reviewed the Establishing and Regulating (E&R) By-law.
- Reviewed applicable municipal, provincial, and federal legislations.
- Reviewed planning department documents regarding community and areas of growth projections.
- Reviewed any previous risk assessment, council's strategic priorities, and other pertinent documents.
- Conducted a general risk assessment based on the information supplied and garnered during interviews and site visit.
- Reviewed current service agreements with neighbouring municipalities and any other current documents.
- Gathered information on operational requirements, including past and current response statistics (call volumes/response times) to analyze trends, staff availability/needs and response capabilities, etc.
- Reviewed service administration including staffing, organizational structure, policies and procedures, administrative support, record keeping and information management/technology, purchasing and inventory control, public and media relations, and customer service.

- Toured the fire stations conducting a location/response analysis.
- Examined fire vehicles, apparatus, and equipment, including the maintenance program.
- Reviewed fire service policies, procedures, emergency response operational guidelines, training programs, and records.
- Collected information on the fire prevention program including education programs, inspection reports/data, enforcement data, and investigations.
- Identified and compared industry best practices relating to fire services performance measurement.
- Reviewed current staff recruitment and retention practices, promotional policy, succession planning, and demographics.
- Reviewed the operational and capital budgets along with reserves and current revenue generation programs within the emergency services and the Town (development fees).

Based on these criteria, and through meetings with members of Council, firefighters, and community stakeholders, the consulting team completed a thorough review of elements that are working well and areas requiring improvement within ATFD.

Performance Measures and Standards

This FMP has been based upon (but not limited to) key performance indicators (KPIs) that have been identified in national standards and safety regulations, such as:

- The *Fire Protection and Prevention Act (FPPA)*
- The Office of the Fire Marshal (OFM) Communiques
- The *Occupational Health and Safety Act (OHSA)*, with reference to the National Institute for Occupational Safety and Health (NIOSH)
- The Ontario Fire Service, Section 21, Advisory Committee Guidance Notes
- The National Fire Protection Association (NFPA) standards
- The Fire Underwriters Survey (FUS) technical documents

Project Consultants

Although several staff at EMG were involved in the collaboration and completion of this FMP, the overall review was conducted by:

- Darryl Culley, President
- Lyle Quan, Fire Service Consultant/ VP of Operations - Project Lead
- Monty Armstrong, Fire Service Consultant
- Larry Brassard, Fire Service Consultant
- Guy Degagne, Fire Service Consultant
- Rick Monkman, Fire Service Consultant

Together, the team has amassed a considerable amount of experience in all areas of fire and emergency services program development, review, and training. The EMG team has worked on projects that range from fire service reviews to the creation of strategic and master fire plans and the development of CRAs for our clients.

Section 1

Community & Fire Department Overview

SECTION 1: COMMUNITY & FIRE DEPARTMENT OVERVIEW

1.1 Community Overview

The Township of Adjala-Tosorontio became incorporated in 1993 as part of the *County of Simcoe Act*, resulting in the merger of the Townships of Adjala and Tosorontio. The Township is in south-central Ontario and is a member municipality of the County of Simcoe.

The municipality maintains its primarily rural setting with an agriculture-driven economy and predominantly mixed farming. Some small industries are situated mainly along the Highway 89 corridor between Concession Road 7 and the Town of New Tecumseth. Like many municipalities in Southern Ontario, Adjala-Tosorontio is experiencing growth that requires greater attention for the provision of municipal services, including fire.

Adjala-Tosorontio population change

According to Statistics Canada, the land area of the Town is 371.53 km^2, and the population density was 29.6 people per square kilometre.

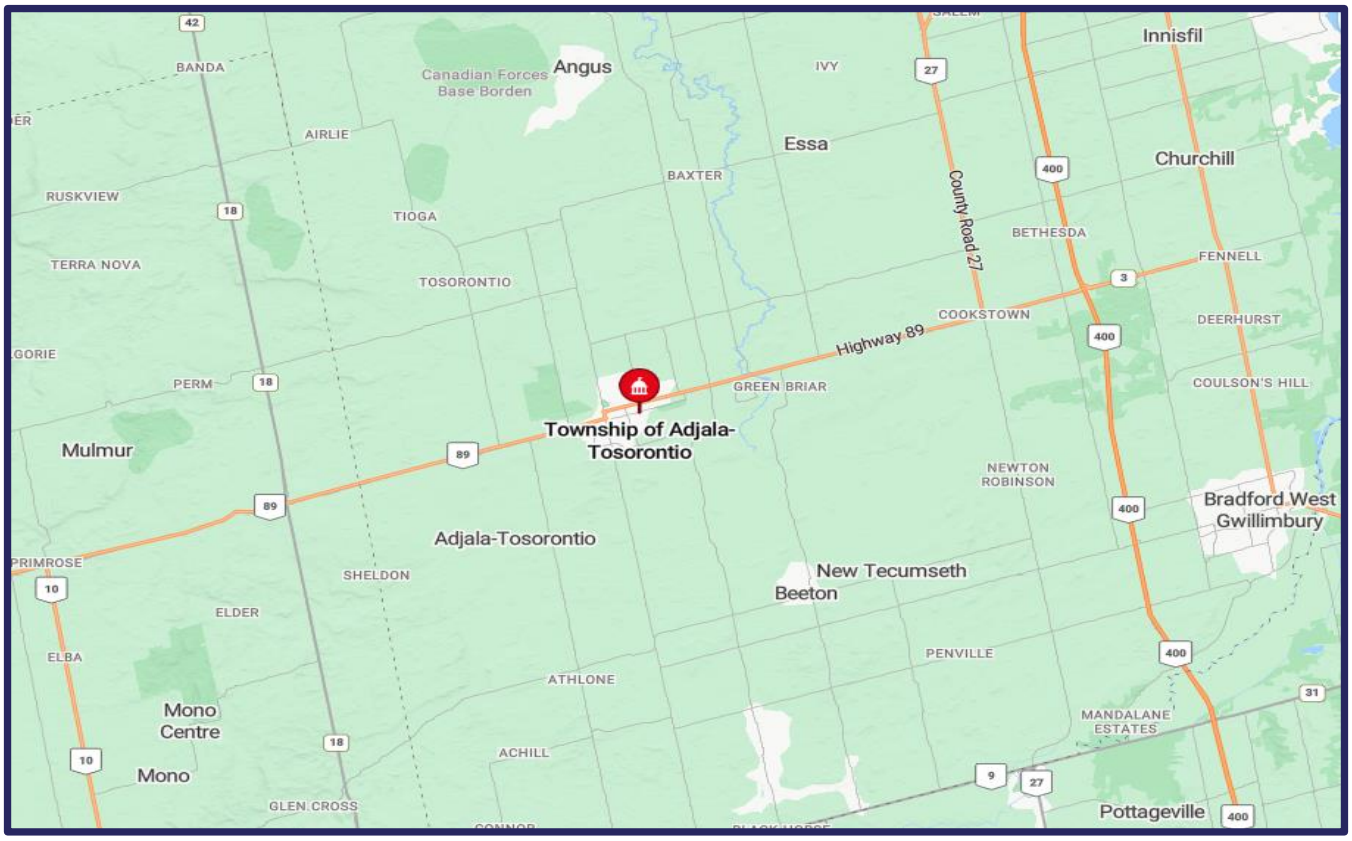
Population changes from 2016 to 2021 (as noted by Statistics Canada)[1]

Population	2016	2021	Percentage Increase 2016-2021
Adjala-Tosorontio	10,975	10,989	0.1%

As illustrated in the population statistics, the township has not witnessed any significant growth between 2016 to 2021. There are, however, plans are in place for some new development along with the influx of industry over the next 10 years.

[1] Statistics Canada. 2023. (table). Census Profile. 2021 Census of Population. Statistics Canada Catalogue no. 98-316-X2021001. Ottawa. Released November 15, 2023. Accessed March 7, 2024. https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E

FIGURE #1 – TOWN OF ADJALA-TOSORONTIO RELATIVE TO OTHER COMMUNITIES[2]



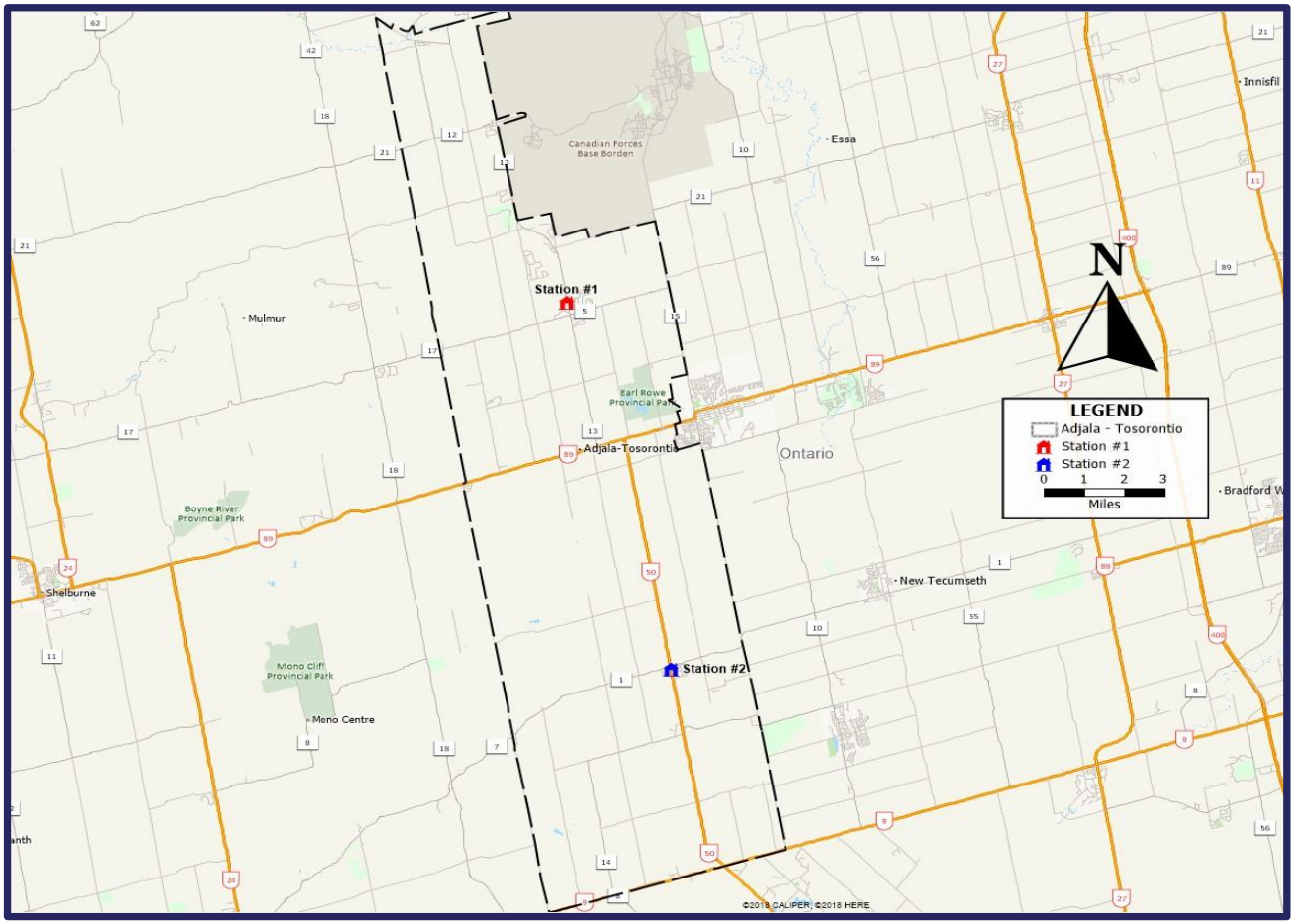
1.2 Fire Service Overview

ATFD provides emergency response and fire prevention programs from two fire stations. Staff presently consists of two full-time personnel that include the Fire Chief and an Administrative Assistant. There are supported by a group of dedicated volunteer firefighters dispersed amongst the two fire stations.

***Note**: During the time of this review, a report was submitted to Township Council for the addition of a full-time Deputy Fire Chief which was approved, and the Department was in the process of hiring for this position.*

[2] "Adjala-Tosorontio, Ontario," Microsoft Bing. Retrieved February 2, 2024. https://www.bing.com/search?q=township+of+adjala+tosorontio&form=QBLH&sp=-1&ghc=2&lq=0&pq=township+of+adjala+tosorontio&sc=6-29&qs=n&sk=&cvid=B53532EC9E4A48539FC2854811F588A7&ghsh=0&ghacc=0&ghpl=&ntref=1

FIGURE #2 – FIRE STATION LOCATIONS



On average, the department responds to 350 calls for service annually. More information relating to call volumes of the fire stations will be covered in sections 3 and 4.

The population of Simcoe County is forecasted to grow by over 40% between 2022 and 2046.[3] With this anticipated growth, there will most likely be an increase in call volume and relative service demands placed on fire prevention for inspections, and the need for enhanced levels of public education. The ATFD will need to review their current capacity to meet the required number of inspections and public education events, considering the need for additional resources, including acquiring a Fire Prevention Officer/ Public Fire Life Safety Educator (FPO/PFLSE) that is also trained as a

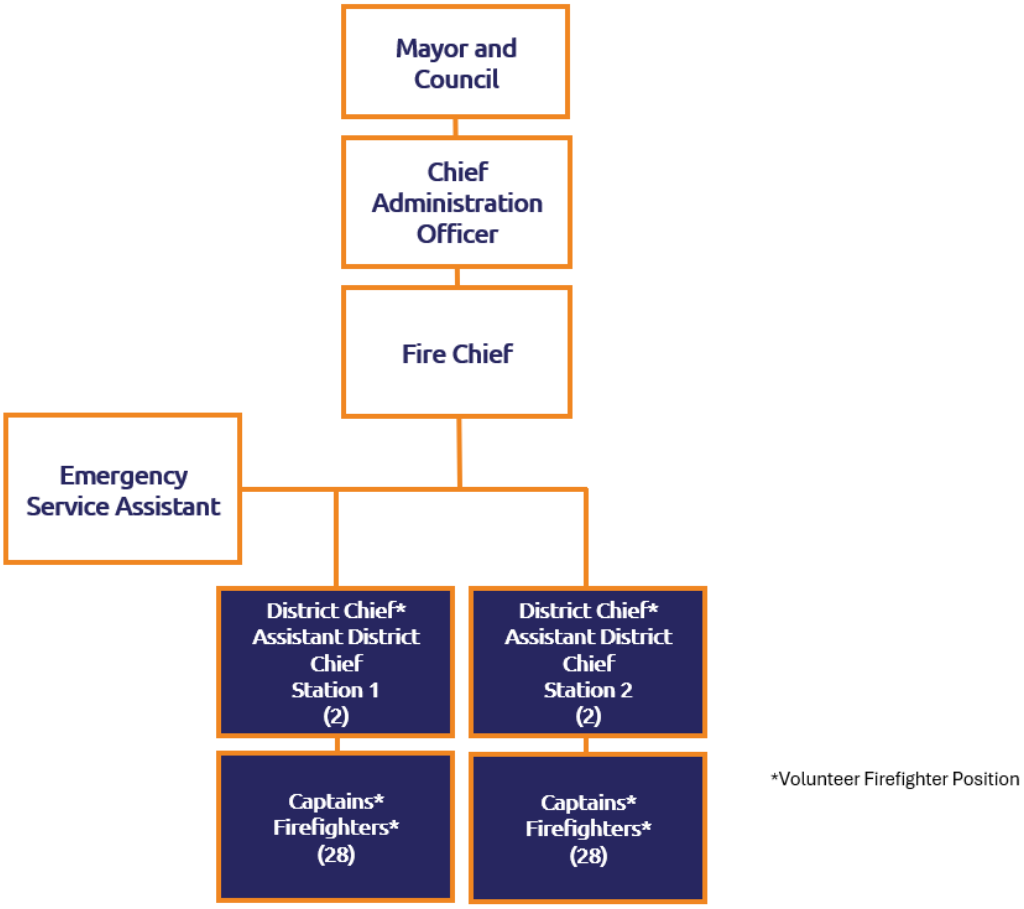
[3] "Ontario population projections." King's Printer for Ontario. Accessed September 27, 2023. https://www.ontario.ca/page/ontario-population-projections#:~:text=Ontario%E2%80%99s%20population%20is%20projected%20to%20increase%20by%2043.6,to%20almost%2021.7%20million%20by%20July%201%2C%202046.

firefighter who can respond to incidents while on duty. More information on fire prevention and public education will be provided in Section 3 of this document.

Reporting Structure

The Fire Chief reports to the Chief Administrative Officer (CAO) for all fire service-related matters. The organizational chart below reflects the general reporting structure.

FIGURE #3 – FIRE DEPARTMENT ORGANIZATIONAL CHART



Based on the present reporting structure of the fire service organization, EMG is not presenting any recommendations.

More information relating to the fire department divisions and response criteria will be presented in Section 3.

Section 1: Recommendations

There are no recommendations for Section 1.

Section 2

Risk Assessment

SECTION 2: RISK ASSESSMENT

2.1 Community Risk Assessment

Risk assessment is the process used to identify the level of fire protection required within the Township's boundaries. It measures the probability and consequence of an adverse effect on health, property, organization, environment, or community due to an event, activity, or operation.

The Township Council has the authority to establish the level of fire protection within their municipality. The fire chief is responsible for informing the Council of all risks existing within the community. This risk assessment aims to provide an overview of identified risks within the community, along with suggested options for mitigation. Based on this information, the Council can decide on the service level provision.

O. Reg. 378/18 CRA states that *"…every municipality shall complete a CRA by July 2024, with renewal to occur every five years."* A review and update of the CRA is to be conducted annually. Document the completion of the evaluation including the date, the sections updated within the CRA, and by whom. This information needs to be retained for reference if required.

The accumulation and analysis of the following factors will assist in applying this information in identifying potential risk scenarios. It is during the assessment of the information gathered, which includes the likelihood of these scenarios occurring and subsequent consequences, that will assist in answering the following questions:

- *What could happen?*
- *When could it happen?*
- *Where could it happen?*
- *To whom could it happen?*
- *Why could it happen?*
- *How likely could it happen?*
- *How bad would it be if it happened?*
- *What programs can ATFD develop and implement to mitigate or prevent any or all the above?*

Once answered, these questions will frame the basis for formulating and prioritizing risk management decisions to reduce the likelihood of these incidents and mitigate their impact. The completed CRA may identify gaps and areas where conditions vary from the desired outcomes.

Data reviewed for each mandatory profile include:

Demographics Profile – Includes age, gender, educational attainment, socioeconomic makeup, vulnerable individuals or occupancies, transient population, and ethnic and cultural considerations.

Critical Infrastructure Profile – The facilities and services that contribute to the interconnected networks, services and systems that meet vital human needs, sustain the economy, and protect public safety and security.

Geographic Profile – Considers the waterways, highways, canyons and other landforms, railroads, wildland-urban interface, bridges, and other specific community features.

Building Stock Profile – Potential high-risk occupancies whether residential, commercial, or industrial, building density, building code classifications, structure(s) age, occupancies that could be a high life safety risk, historic buildings. Inventory the building stock and identify each that incorporated lightweight construction (LWC) practices.

Public Safety Response Profile – How are resources distributed within the community, their deployment and usage, types of incidents responded to and the frequency of such incidents, including the seasonal variations and time of day.

Community Service Profile – Existing planning and zoning committees, schools, seniors' organizations, ratepayers' associations, mental health organizations, faith-based groups, and cultural/ethnic groups.

Hazard Profile – Human, technological, or natural hazards.

Economic Profile – Review the infrastructure, local employers and industries, institutions, community's tax base, and local attractions.

Past Loss/ Event Profile – Consideration of the impact and frequency of an event; identify significant acute events with a low frequency but a high impact or small chronic events with a high frequency and a low impact.

The CRA is a separate document from the FMP. Once the fire chief has reviewed the documents, they should discuss their findings with the Council, senior management, and the CAO. Together, these two documents provide the fire chief with a risk reduction plan.

2.2 Identified Risks

The following information outlines some identified risks to life safety and property. Now that the CRA and this FMP are complete, the Fire Chief can implement strategies to address the risks, including public education and Fire Code enforcement.

A thorough review coupled with sound strategic planning will garner successes in the form of fewer fires, reduced fire-related injuries, and lower dollar property loss through ongoing fire prevention initiatives. These fire prevention initiatives include early warning detection systems (i.e., smoke alarms), proactive inspections, and public education.

Note: *The following risks are discussed at length in the CRA and not presented in the order of their level of risk.*

Risk	Level of Assigned Risk
Hazardous Material Incidents – Under the Establishing and Regulating (E&R) By-law, the ATFD responds to hazardous materials (HAZMAT) incidents at the awareness level. HAZMAT incidents are a real possibility primarily due to the high volume of transports carrying unknown payloads travelling through the Township enroute to Honda and other destinations. A risk also exists for dangerous goods entering or leaving CFB Borden. To the Township of Adjala-Tosorontio and the ATFD's credit, they have entered into a response Memorandum of Understanding (MOU) with the City of Barrie and its fire department for their response to the Township to mitigate HAZMAT incidents.	High
Bodies of Water – The Nottawasaga River lower basin runs through the Township of Adjala-Tosorontio, and this body of water presents its share of risks. These include flooding during the spring thaw, fast-flowing currents during spring and after significant weather events, slippery shorelines that someone walking along could slip into the river, ice/water rescues, etc. The department provides shore-based rescue and has the Barrie Fire & Emergency Service available if the rescue needs to advance to the operations level, whereby firefighters leave the shore and venture onto the ice/water.	High

Risk	Level of Assigned Risk
Fire Protection – The Township of Clearview's fire department would better serve the areas on the Township's northern boundary as it has two stations closer to that area than ATFD. The area would be from Centre Line Rd to the Boundary with CFB Borden and south to the 30 Sideroad Tosorontio. While an agreement (By-law 98-38) exists for a small portion of this region, the response area needs expanding.	High
Domestic Terrorism - The threat of domestic terrorism exists in Canada, with numerous incidents producing havoc and terror among the populace. Active shooter incidents may occur in factories, schools, supermarkets, seasonal facilities and within the family home. Situations have appeared in several Canadian cities with catastrophic consequences. Too often, communities wait until an event has occurred with catastrophic consequences and loss of life before identifying the need for public education and preparedness to handle such incidents. Terrorism attacks quite often focus on those of religious faith. With the events occurring at numerous locations worldwide and the fact that Canadian Forces Base Borden is at the Township's western doorstep, there is a heightened risk of domestic terrorism events. There is a higher risk of an event occurring, and residents must prepare for any event that may take place.	High
Technical Rescues –Trench, Confined Space, High and Low Angle. The mitigation of technical rescues requires that SOGs, Policies and Procedures, equipment, and training specific to each discipline are in place. ATFD currently responds at the awareness level for each call type, which restricts their level of participation in completing the rescue. Like HAZMAT incidents, the Township has a response mitigation strategy with a Special Operations response agreement with Barrie. While the risk of these rescues occurring in the Township is moderate, the Township has a response MOU to activate when and if they occur. Elevator rescues also fall into the technical rescue category. With few in the Township, the risk of persons becoming trapped exists.	Moderate

Risk	Level of Assigned Risk
Weather Events – This area of Southern Ontario is known to receive severe weather events ranging from snowstorms, namely snow squalls and storms, to extreme wind events, including tornadoes during thunderstorms. The Township of Adjala-Tosorontio does not have access to early warning systems, i.e., an app residents could install on their cell phones. Severe weather passes through this region yearly, resulting in tornadoes in neighbouring jurisdictions. The Township should conduct a feasibility study to determine the value of implementing an early warning/notification system via an app. Several regional municipalities have already done so, including road closure notifications, water system maintenance, etc.	Moderate
Inspections and Public Education – The Fire Prevention Officer of the ATFD is a volunteer and is called upon as required. There is a lack of a structured inspection schedule. The Council has directed ATFD to complete inspections based on complaints and requests outlined in the Establishing and Regulating By-law. The frequency of inspections does not align with NFPA 1730, *Standard for the Organization and Deployment of Fire Prevention Inspection and Code Reinforcement, Plans Review, Investigation, and Public Education Operations*, or Fire Underwriters Survey (FUS). The Township is of a size and has the building stock that requires a robust fire inspection program, which it does not have due to the lack of resources.	Moderate
Building Stock - With existing and new residents living in the Township, there could be illegal second units and apartments. Granny flats and garden suites are permitted per the Zoning By-law 03-97. Secondary suites, as known by most, are referred to as residential apartments on the by-law. The Township should require every granny flat and garden suite to be registered and not necessarily licensed with the Township and inspected by the fire department. The Township does not have a by-law governing the licensing or regulation of residential apartments. There is also an unknown number of short-term accommodations in the Township. For the Council's approval, the new by-law should stipulate the unit's registration, licensing, and the need for annual inspections by the fire department.	Moderate

Risk	Level of Assigned Risk
A requirement should be for those with wood-burning appliances to complete a Wood Energy Technology Transfer (WETT) inspection to ensure compliance with building and manufacturers' installation requirements.	
Building Stock – When the pandemic began, and people began working out of their homes, many residents from GTA took residency in the County, some in the Township of Adjala-Tosorontio due to its proximity to the GTA. These homes may have undertaken significant renovations, and their property value has risen significantly. When these residences go through extensive renovations, it is an opportune time for ATFD to promote residential sprinkler systems. The need for residential sprinklers is partly due to a shortfall of firefighters available during the day to attend calls.	Low
Industries/Commercial Establishments - The Township of Adjala-Tosorontio has a minimal industrial base on the lands bordering the Town of New Tecumseth (Alliston area). Still, it does play a role in driving the economy for the Township in that it employs residents who support the local economy. The shutter of any operation would, to a degree, impact the Township's economy.	Low
Building Stock – The OFM has identified the risks associated with occupancies using lightweight construction (LWC) practices. Municipalities are to inventory all building stock, including LWC practices. Failure to comply with this requirement is illegal and exposes the Township to significant fines. ATFD and the Building Department should collaborate to develop an ongoing list of all building stock based on the OBC Occupancy Classifications.	Low

Risk	Level of Assigned Risk
Demographics – Demographic statistics are constantly growing and are forecasted to grow by over 40% in the County of Simcoe between 2022 and 2046.[4] With this anticipated growth, there will be an increase in call volume, demands placed on fire prevention for inspections, and the need for enhanced levels of public education.	Low
Full-Time Deputy Fire Chief /FPO/PFLSE – Adjala-Tosorontio Fire Department is not unlike any other volunteer fire department in Ontario with paid-on-call (POC) firefighters (volunteers). Their availability during the daytime is waning, and having an adequate number of firefighters to operate on the fire ground safely is becoming a challenge. For some departments, this challenge is worse than others. When conducting firefighter recruitments, focus on applicants with daytime availability. The Township needs to analyze the need for a full-time Deputy Fire Chief with the dual role of fire prevention inspector/public educator. The department does not have a Deputy Fire Chief; when the Fire Chief is off or out of the area, that leaves a void in department management. Their dual role will address the shortcomings in fire prevention, public education, and the lack of management continuity. ***Note:*** *During the time of this review, EMG was advised that a deputy chief position was approved by Council.*	Low

[4] "Ontario population projections." King's Printer for Ontario. Accessed September 14, 2023. https://www.ontario.ca/page/ontario-population-projections

Risk	Level of Assigned Risk
Fire Stations – An assessment of the current and future needs of the fire stations is in this Fire Master Plan. Both stations lack post-disaster engineering components and bunker gear storage rooms with negative-pressure ventilation systems. There is a fitness room located on the second floor at Station 2. Station 1, Everett, should be a priority in acquiring a new station, which could also become the new Fire Headquarters with the additional space. This project should move forward at the earliest opportunity. Built in 1967, Station 1 originally had only two bays, and since then, it has undergone additions to that building in 1994 and 2001. Each addition brought another level to the apparatus floor, making the steps a trip hazard even though they are marked. Each addition came with a dedicated electrical system. The replacement of Station 2 in Loretto should occur shortly afterward, pending funds availability, possibly through debentures. Funding may also be available from the upper tiers of Government through growth incentive programs.	Low

2.3 Community Risk Reduction Plan

With the CRA completed and all risks identified, developing a Community Risk Reduction Plan (CRRP) is the next step. When properly applied, the CRRP coordinates emergency operations with prevention and mitigation efforts throughout the community and at the fire station level. A successful CRRP will bring additional resources to the effort through partnerships within the fire department and the community it serves. The community-based approach increases public safety because of the collective work within the community to understand, assess, and provide inclusive solutions to community safety issues.

With the completion of the Community Risk Assessment and this Fire Master Plan, the fire chief now has the information and related recommendations to create their CRRP.

2.4 The Township of Adjala-Tosorontio Fire Loss Statistics

The OFM provided the following information supplied from past report submissions. The data is an overview of concerns within the community. This information will assist in formulating and implementing fire prevention and public safety awareness initiatives.

The Township of Adjala-Tosorontio Fire Loss by Property Classification

Based on the information received, the following building classifications for property loss are listed based on the number of fires in each occupancy from 2017 to 2022:

- Group C – Residential occupancies (24)
- Classified under National Farm Building Code (2)
- Group D – Business and Personal Service (1)
- Group A – Assembly (0)
- Group F – Industrial (0)
- Group B – Care and Detention (0)
- Group E – Mercantile (0)
- Structures/ Properties not classified by Ontario Building Code (0)

The Township of Adjala-Tosorontio Reported Fire Cause

Assessing the possible cause of the fires is essential when identifying potential trends or areas to consider for introducing additional public education on fire prevention initiatives as part of the community fire protection plan.

The leading causes of fires were:

- Undetermined (6)
- Mechanical/electrical failure (5)
- Misuse of ignition source/ materials first ignited (4)
- Unintentional Undetermined (4)
- Arson (2)
- Design/Construction/Maintenance Deficiency (2)
- Other Unintentional (2)

The Township of Adjala-Tosorontio Ignition Source

The leading ignition sources were:

- Miscellaneous (8)
- Electrical distribution equipment (4)

- Heating equipment, chimney, etc. (4)
- Undetermined (4)
- Cooking equipment (2)
- Lighting equipment (2)
- Other Electrical, Mechanical (2)
- Exposure (1)

From the compiled data, most fires occur in residential occupancies, with the leading cause being Miscellaneous (could be a variety of sources with no one source identified as the ignition source). The ignition source was often Electrical Distribution Equipment, Heating Equipment, or Undetermined.

ATFD must be diligent in completing fire investigations. Recent changes in the economic status of many individuals may lead them to commit arson to defraud insurance companies and acquire insurance proceeds. All too often, fire services are quick to declare the origin and cause of the fire as undetermined due to the lack of resources, experience, and time to complete an investigation that may not fall under the parameters of calling in OFM resources to assist.

ATFD's FPO is the only member who has taken any origin and cause training not including NFPA 1033, *Standard for Professional Qualifications for Fire Investigator* or NFPA 921, *Guide for Fire and Explosion Investigations*. Having one individual in the department trained in origin and cause and conducting investigations is not optimal. EMG recommends that all Chief Officers complete NFPA 1033 and 921 and become certified. For those currently responsible for fire investigations in ATFD, completing additional fire origin and cause courses to the NFPA Standards and becoming certified will aid in conducting a more thorough fire investigation. The goal should be to reduce the number of undetermined fires and find a definitive origin and cause.

2.5 Governance and Establishing & Regulating By-law

To assist the Fire Administration in meeting the needs and expectations of the Council, the E&R By-law must be updated annually to identify changes based on the Township's requirements and the fire department's overall operational needs. The E&R By-law must align with the expectations of the *FPPA* of 1997.

The E&R By-law 2023-42 was amended in 2023, making it a current document. The By-law outlines the Council's direction to the ATFD and prescribes what services to provide. The municipal Council is responsible for setting the level of service within a municipality; these E&R by-laws fulfill this requirement. With this by-law updated in 2023, it is a best practice that by-laws affecting fire department operations be reviewed annually or as significant changes occur in either community.

Doing so will ensure that the fire chief's noted service levels, expectations, and authority align with the community's needs.

The Township's Solicitor should vet draft by-laws before the Council's passing as part of any by-law update process.

The Fire Chief should also consider bringing the E&R by-law forward to newly sitting councils every four years. Doing so will allow new council members to understand the level of service provided to the community and the Council's responsibility to fund this level of service as set by the Council.

In collaboration with the Fire Chief, the Council needs to establish an objective, definitive response time in the E&R By-law. NFPA recommends completing assessments to evaluate a baseline for a department's response time goal. This review will offer an understanding of how the department has been performing and identify areas for possible improvement in station location, vehicle, and staffing distribution.

The current E&R By-law reflects legislation, the types and levels of response, administration, communication/resources, maintenance, support services and training expectations. Consideration should also include reference to such guidelines and standards as:

- Section 21 Firefighter Guidance Notes
- OFM Guidelines concerning Staffing and Response Recommendations
- Related NFPA Standards deal with:
    - Training
    - Fire prevention and public safety programs
    - Fire department response goals and objectives
    - Communications and vehicle dispatching
    - Response times.
    - Fleet and maintenance

By incorporating these guidelines and standards, ATFD will ensure that staffing, training programs, fire prevention, public education initiatives, and response to the community adhere to industry best practices.

To ATFD's credit, the current by-law includes the Department's Mission, Vision, and Values Statements. ATFD should post the statements in each station to remind the members what the ATFD strives to achieve in serving the community.

The updated by-law refers to the need to complete a CRA and develop a CRR Plan. What is lacking is a reference to the Regulation 378/18, which came into effect on July 1st, 2019, including the need for an annual review and a new document produced every five years. Reference to O. Reg. 2022-001 regarding Building Stock and Lightweight Construction Materials also needs to be in the by-law.

The *FPPA* requires fire departments to have smoke and carbon monoxide alarm programs, which ATFD has in place. The program, including its purpose, goals, and expected outcomes, should be included in the new document. Note that smoke alarms are kept on the apparatus, ensuring that firefighters only leave a residence after confirming one is installed and operational.

Other considerations for additions or alterations within the current by-law include:

- List all immunizations that members of the department must receive.
- Include all applicable NFPA standards per rank within the department.
- Reference the Ministry of Labour's Section 21 Guidance Notes.
- Identify the frequency of fire inspections per NFPA 1730 or FUS.
- Identify the level of service provision for Technical Rescues and hazardous material (HAZMAT) incidents, including elevator rescue.
- In the Core Services – Emergency Response, add "Trench Rescue" to the list of types of technical rescues.
- Once developed, include that there is a Mental Wellness and Respiratory program.
- Consider changing the name of the "Fire Prevention Division" to "Fire Prevention and Risk Reduction Division".
- Identify response times goals, benchmarks identified, and goals established based on NFPA 1720.
- Reference the NFPA and ULC Standards for the construction of fire apparatus.
- Include the replacement frequency of the different apparatus and the standard it follows, (i.e., FUS).
- Identify who is responsible for fire investigations and their required qualifications, including certification.
- Make mention of Asset and Record Management Programs and retention policies.
- Make mention of any Response or Automatic or Mutual Aid Agreements in place.

- Include that ATFD is a member department of the County of Simcoe Mutual and Automatic Aid Plan and Program.
- Develop and include a policy that outlines the goals and expected outcomes of the Fire Prevention Division.

2.6 Assessment of Current Fire Services By-laws

2.6.1 Open Air Burning By-Law – 12-12

The Open-Air Burning By-law stipulates the parameters for outdoor burning within the Township of Adjala-Tosorontio, enacted in 2012, making this an 11-year-old by-law. This by-law should be updated annually.

Consider the following for inclusion in the revised by-law:

- It should reference the Ontario Fire Code (OFC), Articles 2.4.4.4. (1) regarding Open Air Burning.
- By-law should reference Ontario Regulation 207/96, Outdoor Fires, from the *Forest Fires Prevention Act*.
- Expressly prohibit burning leaves and grass clippings to protect the health of persons with respiratory conditions. According to the By-law, these items are yard waste and are permitted in fires in outdoor fire containers, small, confined fires, and medium-sized fires.
- Analyze the dangers of permitting the burning of sawdust and possibly removing this from the by-law.
- Include that any unapproved burning appliances, such as those used for cooking food, must have spark arrestors, as found in approved devices.
- It should also state that manufactured appliances cannot be placed and used on wooden surfaces such as decks and porches.
- In the by-law, note that wood-burning outdoor furnaces are becoming quite popular as a cost-saving measure for heating homes and domestic water, and the smoke these may create can be bothersome to neighbours. These appliances must comply with the *Technical Standards and Safety Act* of 2000.
- Some municipalities have included a clause prohibiting outdoor burning past a designated hour. The purpose of such a clause is to reduce the sounds emanating through the neighbourhood associated with activities around the fire.

The Township has designated the Chief Fire Official responsible for administrating and enforcing this by-law. They or others acting in that role must be appointed Provincial Offences Officers, as defined in the *Provincial Offences Act*, to execute this or any by-law properly.

2.6.2 Fireworks By-Law 05-41

The Township of Adjala-Tosorontio's Fireworks By-law regulates the sale of fireworks as well as the discharge and display of fireworks. The Council enacted the Fireworks By-law in 2005, making it an 18-year-old document needing updating.

To support the by-law, the Township should develop an online document on the proper methods for discharging domestic fireworks and safety tips.

The current fireworks by-law includes specifics regarding the recreational usage of family fireworks and exhibition displays but lacks mention of those released during a show or music concert (pyrotechnics).

The by-law states that sale and discharge shall be per the OFC, the *Federal Explosives Act,* and the Explosives Regulation. The Township should identify the specific clauses within each piece of legislation mentioned. For example, in the amended by-law, include that the municipal authority to control fireworks rests within the OFC O. Reg. 213/07, Division B, Part 5, ss 5.2.

To properly enforce this by-law, in whole or part, those responsible should complete all fireworks-related courses to ensure they understand the laws they are executing.

The Township should consider the inclusion of the following in its next update to the Fireworks By-law:

- The ATFD should conduct a pre-event inspection to discharge exhibition ordinances to ensure they comply with the application and regulations. A member of ATFD who has completed the National Fireworks Certification Program (NFCP) course should be the one conducting this inspection.
- During Exhibition Fireworks displays,
    - A fire apparatus with a crew of four firefighters will be on standby during discharge.
    - There should be two post-event inspections of the area adjacent to the discharge zone to look for unexploded ordinances. One assessment occurs the night of the display and the second the following morning.
- Reference and enforce the OFC, Section 5.2 - Explosives, Fireworks and Pyrotechnics.
    - The by-law could reference the importance of fire safety while setting off fireworks.

    - The by-law Identifies when fireworks may be legally discharged, such as holidays and special occasions including Victoria Day and Canada Day.
    - Consider the inclusion of New Year's Eve, Civic Holiday Weekend (Simcoe Day), and well-known religious-based holidays.
- Include a requirement that all those discharging high-hazard fireworks have completed the NFCP on discharge.[5]
- The Fees and Services By-law includes post-discharge inspections and the standby fire crew at a rate of full-cost recovery.

2.6.3 Short-Term Accommodations and Accessory Buildings By-law

There is an increase in short-term accommodation units throughout the County of Simcoe, leading to municipalities developing and enforcing strict by-laws governing their operation. The Township of Adjala-Tosorontio lacks a by-law that regulates short-term accommodations or accessory apartments/buildings.

Additional dwellings like accessory buildings and apartments are permitted per the Zoning by-law. Granny flats, also known as cottage suites, are allowed, provided the unit is for the parents of the property owner.

A few points about rental properties:

- An unknown number of short-term accommodations operate in the Township.
- Detached dwellings may be lodging multiple visitors, with possible bedrooms in basements.
- It may not meet the requirements of the Ontario Building Code (OBC) and OFC. Violations include not having proper exits, inadequately sized basement windows, and a lack of smoke alarms, CO alarms, fire extinguishers, fire escape plans, etc.
- It may lack a direct route to the outside from the basement.
- Property owners may not understand their responsibilities regarding fire safety and fire code. Section 9.8 of the OFC sets out the minimum fire safety features required when converting a residential building with two existing dwelling units. This section identifies the need for fire

[5] "Fireworks operator certification." Government of Canada. Accessed October 26, 2023. https://natural-resources.canada.ca/our-natural-resources/minerals-mining/explosives-fireworks-and-ammunition/fireworks-and-pyrotechnics/fireworks-operator-certification/fireworks-operator-certification/9885

separation standards, means of egress, Electrical Safety Authority (ESA) and inspection requirements.

    - ATFD should review its Fire Prevention and Enforcement resources regarding adequate staffing to inspect all the short-term accommodations in the municipality for OFC violations.
    - ATFD and the Building Department should establish and advertise a method (reporting line) to identify possible illegal locations in cooperation with By-Law Enforcement.
    - With residential developments in progress, some may become designated short-term accommodations.

- Many short-term accommodations may have wood-burning appliances installed. Consider the requirement for a Wood Energy Technology Transfer (WETT) inspection.
- All ATFD fire inspections completed that are relevant to the by-law should be in the Fees and Charges By-law.

Considering these points, the Planning and Building Departments should create a by-law regulating additional dwelling units and short-term accommodations, including licensing these locations. The document should include the responsibilities of the fire department.

2.6.4 Rosemont District Fire Board and the Rosemont District Fire Department By-law 19-13

The Rosemont District Fire Board (RDFB) was established upon the organization of the Rosemont District Fire Department (RDFD) by its founding member municipalities, which include:

- The Township of Adjala-Tosorontio, in the County of Simcoe
- The Township of Mono, in the County of Dufferin
- The Township of Mulmer, in the County of Dufferin

Since the RDFD is not part of the ATFD or its operations (other than the Township has part ownership of the department and voting rights on its board), the RDFD will not be included any further in the discussion on the activities of the ATFD in this FMP.

2.7 Policies, Directives, & Standard Operating Procedures

Policies, procedures, standard operating guidelines (SOG), and standard operating procedures (SOP) are essential for the daily operations of a fire department. Whether a department is successful

depends on developing these tools and maintaining their currency. The goal of having SOGs or SOPs and policies is to provide governance and direction on the department's operations.

- Policy - A high-level statement that expects consistent compliance. There is very little to no flexibility permitted with a policy. Failing to follow departmental policies, depending on the infraction and its impacts, may imply the necessity for disciplinary action.
- Guideline - A standard with an acceptable level of quality or attainment. It provides direction on how to act in each situation with non-mandatory controls.
- Procedure - A requirement with an acceptable level of quality or accomplishment in a series of detailed steps to accomplish an end. There are step-by-step instructions for execution and completion.

The ATFD has SOGs in place; to ensure all the SOGs are current, they need to be reviewed and revised on an ongoing basis as circumstances change. A wholesome review has begun, including establishing an SOG Committee. Some fire departments review a third of their SOGs annually. Adopting this procedure provides the entire set of documents to receive a full review every three years.

Reviewing the SOGs can be an incredibly detailed and very involved process. Writing new SOGs and maintaining existing ones is a daunting task to leave to the responsibility of the Fire Chief and District Chiefs to look after. It is a wise decision on the part of ATFD to establish a committee that meets regularly to develop new SOGs and review older ones. This new committee will relieve some of the pressures placed on the Chief Officers.

A few points to consider when developing or updating SOGs include:

- Ensure only SOGs relevant to ATFD's operations and alignment with the E&R By-Law are in place. They should be available online to all department members.
- Ensure Information Technologies (IT) support is in place to support the electronically available SOGs. Doing so will eliminate the need for hard copies in the stations, as maintaining that approach is problematic.
- A source of information is in Section 21 Guidance Notes, as they are kept current by a provincial team of fire service personnel. A good approach is to compose an SOG for every Section 21 Guidance Note relevant to ATFD's operations.
- Reference and, where applicable, include NFPA Standards.
- Reference the FUS where applicable.

2.8 Stakeholder Surveys

To understand how well the ATFD meets the community and its firefighters' needs, council members, community, and staff input were requested in anonymous surveys via SurveyMonkey. This input helped develop recommendations to assist the Town of Adjala-Tosorontio's Council and ATFD with future strategic decision-making related to the Fire Department.

The surveys consisted open-ended, ordinal, and interval scale questions. Distinct types of questions were used because each kind of question collects a different type of data to inform a more comprehensive understanding of ATFD's level of service, along with how it is meeting the needs and expectations of those surveyed.

2.8.1 Stakeholders' Survey

Twenty-five community members participated in the stakeholders' survey. The survey gathered information about residents' opinion of the ATFD, their experience with the ATFD, their feeling about the fire protection services' delivery, and opinion about how the service delivery can be improved. Overall, the goal of the survey was to get insights from the public that may contribute and inform the formulation of the ATFD's 10-year FMP. EMG cautions that the small sample population may not statistically represent the overall opinion trends of the community. However, it may provide a general idea of feelings and opinions expressed, which may benefit the ATFD 10-year FMP.

Q1. What is your general impression of the Adjala-Tosorontio Fire Department in relation to its level of professionalism, community safety, education, and fire prevention awareness programs?

The first question addressed the level of satisfaction with the ATFD's performance in relation to public fire and life safety education programs; 22 of 25 respondents answered this question. Eighty-six percent of the respondents expressed satisfaction with the ATFD's performance with respect to professionalism, community safety, and fire prevention and public education programs. The remaining 14% did not express a negative impression of the ATFD but indicated "NOT HAVING INTERACTION TO DATE WITH THE ATFD".

Of the 85% who expressed satisfaction, 10% expressed gratitude for the ATFD involvement and staff engagement in community events. As one respondent eloquently stated: "*I believe the fire hall is rather involved in the community as a whole, but they are often overlooked and underappreciated.*"

Q2. Have you been approached by the Adjala-Tosorontio Fire Department staff in relation to their Smoke Alarm Program and if so, how did you find this interaction?

Twenty-three participants answered this question. Seventy-four percent of the respondents indicated that they had NOT been approached by ATFD regarding their smoke alarm program. The 26% of

respondents who had been contacted unanimously said they had a positive and informative experience with the ATFD.

Q3. How important are the following statements to you?

In gauging the community's sentiment regarding the quality of fire protection services delivery, the respondents of the survey were asked to rate the importance of several statements on a scale from "Very Important" to "Not Important at All." The weighted average indicated that how quick the ATFD response time to emergency calls was by far the most critical statement (weighted average of 1.08). All respondents answered this question and 100% of the respondents stated that a quick response time was extremely to very important.

The second, third, and fourth most important statements, with weighted averages of 1.52, 1.76, and 1.82 complemented the response time to calls for service, to the competence of the department (training), timeliness of service, and quality of equipment, respectively. Altogether, the weighted averages of the four statements demonstrate the community prioritizes the importance of quality emergency service delivery to the community (the third line of defence) above any other service delivered by the ATFD.

The statement that resonates the least with the respondents pertains to how often the ATFD consults them about their service (weighted average of 3.28). The second least important statement is whether the ATFD will visit the respondents' homes.

The results suggest that quality emergency service delivery is paramount. However, the lack of concerns regarding preventive measures could be attributed to the Town of Adjala-Tosorontio being a "commuter" town; this can be addressed through more proactive prevention and public fire and life safety education initiatives implemented through the 10-year fire master plan.

Q4. Based on your knowledge/understanding of the Adjala-Tosorontio Fire Department, what do you think are the top three issues facing our fire service today (i.e., barriers to providing service)?

Question four asked the respondents to identify three issues facing the fire service today. Twenty-three of the twenty-five respondents answered this question (92% of the respondents). Overwhelmingly, "funding" is at the forefront of the respondents' concerns.

"Staffing" was the second most mentioned issue. It can be discerned from all the comments that with the population growth, the respondents are concerned about ATFD 's ability to adequately respond to calls for service with a reasonable number of staff. Recruitment and retention were also discerned as a staffing issue and concerns over the turnover in the Fire Chief's position in recent years.

"Equipment" was the third most mentioned issue. For all respondents who selected "equipment" as one of the top three issues facing the ATFD, the outdated or unavailable factor associated with equipment was the main concern.

Population growth is also a top issue identified by the respondents, but primarily for its impact on staffing, funding, and equipment quality to maintain adequate response to emergency calls for service.

Q5. There are twelve core services delivered by the Adjala-Tosorontio Fire Department. Which services are most important to you? Please rank in order of priority from Extremely Important to Not Important at All?

Question five provided the respondents with a series of core services provided by the ATFD and asked the respondents to rank the core services in order of importance. All respondents answered this question. All core services related to response to emergencies were ranked higher than technical rescue related calls for service, followed by fire prevention, code enforcement, and public education.

So far, the stakeholders' survey identified a trend; public and life safety education and fire prevention are not seen as beneficial to core emergency response-related core services. The results of the survey suggest that with respect to fire protection services, emergency response is more impactful than fire prevention or public and life safety in reducing or eliminating hazards. The positive impact of fire prevention and public education is not as evident as that of emergency response. This is an important finding when factorizing the three lines of defence in formulating the ATFD 10-year FMP.

Another interesting factor is the finding that technical rescue core services such as water rescue, confined space rescue, and high-angle rescue, are not seen as a priority. This finding is consistent with opinions expressed in the previous question where stakeholders have a concern regarding duplication of services by emergency agencies serving the Town of Adjala-Tosorontio.

	EXTREMELY IMPORTANT	VERY IMPORTANT	IMPORTANT	NOT VERY IMPORTANT	NOT IMPORTANT AT ALL	TOTAL	WEIGHTED AVERAGE
Firefighting including rescue	96.00% 24	0.00% 0	0.00% 0	4.00% 1	0.00% 0	25	1.12
Vehicle Collision and Extrication	92.00% 23	4.00% 1	0.00% 0	4.00% 1	0.00% 0	25	1.16
Grass, Bush, Forestry Firefighting	64.00% 16	28.00% 7	4.00% 1	4.00% 1	0.00% 0	25	1.48
Emergency Medical Intervention (including defibrillation)	60.00% 15	24.00% 6	16.00% 4	0.00% 0	0.00% 0	25	1.56
Hazardous Materials Response	24.00% 6	48.00% 12	16.00% 4	8.00% 2	4.00% 1	25	2.20
Water and Ice Rescue	20.00% 5	40.00% 10	12.00% 3	20.00% 5	8.00% 2	25	2.56
Marine Rescue	4.00% 1	16.00% 4	28.00% 7	28.00% 7	24.00% 6	25	3.52
High-Angle Rescue	12.50% 3	20.83% 5	37.50% 9	16.67% 4	12.50% 3	24	2.96
Confined Space Rescue	32.00% 8	16.00% 4	32.00% 8	16.00% 4	4.00% 1	25	2.44
Fire Prevention	32.00% 8	28.00% 7	40.00% 10	0.00% 0	0.00% 0	25	2.08
Fire Code Enforcement	16.00% 4	28.00% 7	56.00% 14	0.00% 0	0.00% 0	25	2.40
Public Fire Safety Education	28.00% 7	24.00% 6	32.00% 8	12.00% 3	4.00% 1	25	2.40

Q6. Are there any additional services that you believe should be provided? If so, please specify.

Question six asked the respondents for their opinion regarding additional services the ATFD should be providing. About 44% of the respondents provided input on this matter (11 out of 25 respondents). Half the respondents felt that there were no additional services needed. Worth noting was the identification of emergency management information on the evacuation plan and public fire evacuation training.

Q7. Over the next 10 years, if you could recommend/implement up to three things to improve how the current services are provided by the Adjala-Tosorontio Fire Department, what would those things be?

Question seven asked respondents to identify up to three things that the ATFD could implement in the next 10 years to improve their delivery of service. A plethora of ideas were suggested. Several recommendations resonated with many respondents, including increasing staffing to meet growing

call volume/community growth, establishing competitive salaries and benefits for firefighters, and maintaining reliable equipment for adequate response to emergency calls.

The following is a sample of the suggested things to implement to improve the ATFD. Again, this information is valuable in the formulation of the ATFD 10-year FMP.

- Electric vehicle fire training
- Electric vehicle charger safety
- Plan forward to ensure that growing community needs can be met
- Value, retain, and increase the base of firefighters at both stations
- Improve communication with and to the community to ensure that time spent planning community public education events is worth the effort and that planned events are better attended.
- Community involvement to create further interest in becoming a volunteer, which will impart an opportunity for education and awareness
- Training to keep up with changes/technology
- Improve ATFD visibility in the community.
- Potentially, a new fire station/community emergency site in Everett
- Reduce duplication of service with OPP/EMS.
- Increase staffing
- Fast and effective response times
- Competitive wages for firefighters
- Reliable equipment
- More fire stations to meet population growth

Q8. Have you directly received service from the Adjala-Tosorontio Fire Department? And Q.9 Could you share some details of your experience and any recommendations for fire department improvements?

Questions #8 and #9 asked respondents if they received direct services from the ATFD and if they would share their experience and make recommendations based on the quality of service received. All respondents answered question #8. Of the twenty-five respondents, 8 (32%) indicated that they received direct service from the ATFD.

Most respondents who indicated that they had received direct service from the ATFD reported having a positive experience. The direct service ranged from victims of fires and various medical emergencies.

2.8.2 ATFD Staff Survey

Twenty-eight members of the ATFD answered the Internal Staff survey. Approximately 45% of the firefighter's complement participated in the survey.

Q1. What things make you most proud of the Adjala-Tosorontio Fire Department (i.e., the level of professionalism, community involvement or making a positive difference within the community)?

The first question asked the respondents about what characteristics they attribute to the ATFD that reflect pride in the organization. Fire service organizations are part of a type of business that requires teamwork in the achievement of altruistic goals and objectives in serving the public. Teamwork and altruism transpired in all the responses provided by the respondents.

Professionalism, willingness to help, and providing excellent customer service, all within a collaborative work environment, are four characteristics that resonated with most respondents. These characteristics require leadership to foster and flourish within a fire service organization. There is a consensus amongst respondents that the collaborative and altruistic nature of the fire service organization is strong and alive within the ATFD.

Q2. In your opinion, what are the duties of the Fire Chief?

Q3. What are your expectations of the roles and responsibilities of your Fire Chief?

Q4. How can the current roles and responsibilities of your Fire Chief be improved?

Questions 2, 3, and 4 are a quasi-360-degree evaluation of the fire chief's performance from staff that interact with them on a regular basis. The results will inform the formulation of recommendations throughout this document from identified opportunities for growth.

All respondents see the fire chief position as both administrative and operational. The administrative duties identified relate to managerial duties to ensure the proper functioning of the department in achieving fire protection services to the community and protecting fire personnel's health and wellness. A twofold managerial duty resonated with all respondents: ensuring community safety and personnel safety.

The Fire Chief is also seen as the officer in charge of incident command at emergency calls, the officer responsible for prevention matters, and an ambassador for community events. Furthermore, an interesting theme that permeated throughout question 2 pertained to the view that a duty of the Fire Chief is to advocate on behalf of the members of the department for compensation and to advocate

for the needs and wants of the department. Typically, respondents see the fire chief as a member of the fire service community who champions the interest of the ATFD.

The fire chief is not seen as a member of the Township management team but rather as a member of the ATFD representing the fire service's interests to the Township Council. While the small population sample may not reflect the values or opinions of the general population (target group), an "Us and Them" sentiment permeated from the answers to this question.

In question 3, the respondents describe their expectations of the Fire Chief in terms of "leadership". Traits mentioned frequently are good communicator, fair, dedicated, honest, and having integrity.

Question 4 addresses the concerns of firefighters regarding the unstable Fire Chief position over the last several years. Most respondents are concerned about the Fire Chief position's stability and believe that the Township should impose a 5-year commitment to future vacancies in the position.

Respondents also believe that considering a full-time Deputy Chief position would stabilize the Fire Chief position. Respondents feel that the instability in the position is partly caused by the current workload faced by the Fire Chief.

Finally, respondents feel that a lack of Township Council support for the Fire Chief and Fire Department in general is a contributing factor to the position's recent instability.

Q5. In your opinion, what are the duties of the District Chiefs?

Q6. What are your expectations of the roles and responsibilities of the District Chiefs?

Q7. How can the current roles and responsibilities of the District Chiefs be improved?

Like questions 2, 3, and 4, the following three questions look at how the duties, roles, and responsibilities of the District Chiefs are perceived by the ATFD staff, providing insights for the formulation of this FMP.

While the duties and responsibilities of the Fire Chief are perceived within the realm of administration and leadership, the duties of the District Chiefs are identified as tactical and in support of the Fire Chief. The functions are described more in order of specific fire hall management and operation as illustrated by the following comment that resonated throughout the answers:

"*Oversee daily operations of the Station and their respective personnel. Ensure the safe operation of all apparatus and equipment. Foster an environment where Health & Safety is a priority. Station and Apparatus maintenance. Development of Station personnel, and succession planning. Work collaboratively with the other station to create and maintain consistency across the ATFD. Oversee all public education and fire inspection activities/events*."

Succinctly, all respondents expected that the roles and responsibilities of the District Chiefs would consist of a hands-on approach to the daily operations at each fire station with monitoring of activity at a broader level, including bridging connections between individual stations, as well as oversight of implementation of training. Roles and responsibilities are still perceived as administrative but with a tactical and operational overtone rather than executive. Hence, the position is seen as overseeing the effectiveness and efficiency of the individual stations.

An emerging theme pertains to concerns that the two stations operate in independently of each other. There is an opportunity through this FMP initiative to rectify these silo operations, which is perceived with a negative connotation by the respondents.

Concerning how the current District Chiefs' roles and responsibilities can be improved, the respondents feel that tasks at the station level could be delegated amongst staff to lighten the District Chiefs' workload and improve fire station efficiencies. Also, managing training appears to be a responsibility of the district chiefs, which could be improved by delegating related duties to assistant district chiefs (ADCs)and captains.

Q8. In your opinion, what are the duties of the Assistant District Chiefs?

Q9. What are your expectations of the roles and responsibilities of the Assistant District Chiefs

Q10. How can the current roles and responsibilities of the Assistant District Chiefs be improved?

The three previous questions look at how the duties, roles, and responsibilities of the ADCs are perceived by the ATFD staff, providing insights for the formulation of this FMP.

When the respondents were asked what the duties of the ADCs were, they unanimously stated that their duties were to assist the District Chiefs and oversee training. Unlike comparable questions about the responsibilities of the Fire Chief and District Chiefs, the respondents did not elaborate on the ADCs' duties.

The answer suggests that the respondents do not have a clear understanding of the duties of the ADCs. This should be addressed by the fire chief to communicate related duties and expectations of the position.

Question 9 reinforced the respondents' opinions that the duties, roles, and responsibilities of the ADCs pertain to assisting District Chiefs and oversight of training. Of particular interest, respondents do not see the position as operational but as a support role (e.g. "*assist district chiefs*;" "*assist captains at emergency scenes*;" "*assist with training*").

Two themes arose from answers to question 10, including a lack of understanding of the roles and responsibilities of the ADCs and an overwhelming agreement that the ATFD would benefit from a full-

time training Officer. Regarding the knowledge of the roles and responsibilities of the ADCs, respondents felt that the ADCs are engaged in many tasks and carry a heavy workload, blurring the lines between their duties and the duties of the District Chiefs.

With respect to the need for a full-time training officer, there is a sentiment that training duties are duplicated and siloed and that a training officer would unify and standardize training between the two fire stations and eliminate duplicitous functions amongst the ADCs.

Q11. In your opinion, what are the duties of the captains?

Q12. What are your expectations of the roles and responsibilities of your captains?

Q13. How can the current roles and responsibilities of the captains be improved?

Respondents were also asked to provide their opinions regarding the duties, roles, and responsibilities, as well as suggest ways to improve the captain position.

The respondents agreed that the captains are the first line of communication and that their duties are as supervisors, educators, coaches, and mentors to the fire crews (platoons) regarding all aspects of the day-to-day operations. The responsibilities also include incident command and training support. The descriptors suggest that the captains are supervisors, and their functions are operational rather than managerial.

All respondents indicated that the roles and responsibilities of the captains pertain to the competent, effective, and safe management of their respective platoon and emergency scenes. The common theme was "competency," using traits such as knowledgeable, confident, experienced, proficient, in control, and engaged. As one respondent expressed: "*Teach newer firefighters everything they can*."

With respect to how the captains' current roles can be improved, all the suggestions pertained to training, whether better leadership training for the captains, more involvement in training by the officers, or more emphasis on in-house training to alleviate time away from home and family. The importance of officer training resonates with all respondents who believe that officer training contributes to the betterment of the ATFD.

Q14. What are your promotional expectations within the ATFD?

Twenty-three of the twenty-eight respondents provided feedback concerning their promotional expectations within the ATFD. Half the respondents are aspiring to become captains. Thirty-four percent of the respondents (8) are happy being firefighters with no aspirations to be promoted. A small percentage of respondents aspire to be senior officer roles in the future. In contrast, less than eight percent of the respondents aspire to become fire prevention officers or public fire and life safety educators.

This is consistent with the suppression-centric culture of the fire service. There is an opportunity for the ATFD to promote the first two lines of defence, with public fire safety education and fire safety standards and enforcement within the department.

Q15. Do you feel that given the anticipated growth of the community that the ATFD should consider remaining as a volunteer fire department; become a composite fire department; or become a career fire department?

With respect to ATFD becoming a career fire department, staff do not feel that community growth would necessitate such a drastic organizational change. However, there is almost a 50/50 split between respondents who believe that the status quo is adequate to maintain the level of service with anticipated growth and respondents who believe that organizational change towards a composite structure for ATFD would suffice to meet adequate service delivery with expected growth of the community. Readers are cautioned that no rationale has been provided in support of the responses.

Q16. With respect to training and professional development, would you participate in any of the following?

Generally speaking, the respondents would be more willing to participate in incident command-related training than any other suggested training listed in this question. The second training that respondents would participate in pertains to basic officer training. The latest finding is consistent with the sample population's strong promotional expectations to become captains during their careers in the fire service.

Training associated with the first line of defence is the least likely to see volunteered participation from the respondents. Again, the answers shed some light on affinity to the first and second line of defence, as opposed to the third line of defence within the ATFD. The findings present opportunities for the ATFD to promote and educate staff with respect to public and life safety education and fire safety standards and enforcement.

Q17. Do you feel that opportunities to discuss career choices/interests have been adequately provided to you?

There is a 60/40 split between respondents who felt they had adequate opportunities to discuss career choices/interests within ATFD and respondents who felt they did not have adequate opportunities, respectively. The question did not ask the respondents to explain their answer. Nevertheless, the answers suggest that there are opportunities for ATFD to evaluate the effectiveness of their succession plan program.

Q18. How do you think most people living in the Township of Adjala-Tosorontio perceive the ATFD and why?

This question looks at the relationship between the ATFD personnel and the community and provides us with a gauge regarding the ATFD community rapport. Unanimously, the feeling is that the ATFD is perceived positively by the constituents. However, there is a hint of caution in the tone of the comments. Many respondents believe that with the changing and growing demographics, newer residents may not have had the opportunities to meet the ATFD and may think of the ATFD as a composite or full-time fire service.

There is an opportunity in the implementation of the ATFD FMP to address this public relations concern.

Q19. What would you say are the top three issues facing the ATFD today?

Twenty-seven of the twenty-eight respondents answered this question. The issue most mentioned by the respondents was "recruitment & retention." Respondents felt that contributing factors were associated with ever increasing costs of living, uncompetitive renumeration, and growing workload that is hindering the work-life balance.

The second top issue facing the ATFD mentioned by the respondents was the "fire chief turnover." The recent turnovers in the past few years have taken a toll on the ATFD staff.

Other noteworthy mentions were the cost of equipment, the aging fire halls, and the perceived lack of support by the elected officials.

Except for "recruitment & retention," none of the other issues mentioned were provided with sustained explanations. A strategic plan to address cost of living and renumeration would benefit the ATFD.

Q20. Which services do you believe are most valued by the community? Please rank in order of priority from Extremely Important to Not Important at All

Response time, training, and up-to-date equipment were ranked by the respondents as the first, second, and third most valued services by the community, respectively. All respondents felt that the ATFD's quick response to emergencies was paramount. All respondents felt that this was extremely important to the community.

How well the ATFD staff are trained was the second highest ranked statement where 23 out of 28 respondents felt that response time was extremely important, and three respondents felt that response time was very important or important. No respondents ranked the statement regarding response time as not important in their view of the community perception of the service.

The respondents felt that having well-maintained equipment was the third most important statement for the community regarding the ATFD. None of the respondents felt that the statement would be perceived as "not very important" or "not important at all" by the community.

The respondents are of the opinion that the ATFD's consultation with the community regarding their service is the least important statement regarding the ATFD's services, followed by how often the ATFD visit their home. The results indicate that the respondents believe that the community is more concerned about the third line of defence – Emergency Response – than the first two lines of defence. This may assist the ATFD in gauging the staff's views regarding the three lines of defence and inform some goals and objectives for the ATFD.

Q21. There are twelve core services delivered by the Adjala-Tosorontio Fire Department. Which services do you believe are most important to you? Please rank in order of priority from Extremely Important to Not Important at All.

Firefighting and vehicle extrication were equally found to be the most important for the respondents. Historically, "Emergency Response (firefighting or suppression)" has been the priority of the fire service culture. Most people chose the career or to volunteer to help their community by responding to calls for service. This is also why forestry firefighting and emergency medical intervention are highly ranked. Rescue functions were identified as the least important services. This can be attributed to the agreement with Barrie Fire and Emergency Service (BFES) to provide rescue-related responses.

Core services that the ATFD offers that relate to the first two lines of defence, including Line 1: Public Fire Safety Education and Line 2: Fire Safety Standards and Enforcement ranked higher than rescue-related services. The results are consistent with other surveyed questions from the ATFD personnel population sample, where public and life safety education and fire prevention related services do not receive the accolades given to emergency response related services.

The ATFD has an opportunity to instill amongst the personnel a paradigm-shift in favour of the first two lines of defence.

Q22. Are there any other services that you believe the Adjala-Tosorontio Fire Department should or should not provide and why?

This question was skipped the most by the respondents. Most of the few respondents who commented felt that there were no additional services that the ATFD should provide and no current services they felt should bot be provided. However, water and ice rescue were identified as a service that should be provided at the operations level by the ATFD rather than through an agreement with BFES, due to the number of ponds and lakes within the municipality.

Q23. What improvements does the ATFD need to make to its services to be more efficient, and what do you believe would be the outcome of implementing these efficiencies?

Twenty-one respondents answered question 23. The following is a list of suggested improvements.

Improvement	Rationale
Retention	No rationale provided
Updated and additional fleet	No rationale provided
A Full-Time component or Part-Time shift component	Would mean better staffing levels, better service to residents, and happier staff within ATFD
Better renumeration	Help with recruitment and retention and provide an incentive for staff to attend calls.
Standard equipment and apparatuses	This would create more consistency across the board. By standardizing the equipment versus whatever the most cost-effective decision was at the time, it provides the opportunity for members to become subject matter experts on one piece of equipment and it does not matter which truck you are on or what station you are from. Training can be focused on the safe and efficient use of one piece of equipment making our members feel more confident.
Updating the fire halls	For safety and health reasons.
Adding a Deputy Chief	To look after training and recruitment.
Fire halls need repairs	There are unsafe conditions outside, including ice on the roofs, damaged driveways/pads, as well as mold in the training area.
Succession Plan for ATFD management positions	An absolute asset to the ATFD and the Township.

Improvement	Rationale
Mobile Data Terminals or iPad for the trucks	Firefighters and officers are using personal devices to respond and get updates during emergencies. Front run trucks should have iPads with data for incident updates and navigation to incident.
More accountability for attendance at call / training	Weed out members that provide little or no benefit to the community yet incurred the expense of gear and training. Outcome would be better morale for those that do and less wasted money on those that do not.
Provide better recruiting and training policies	Would have better recruits from better screening and training.
Have more training readily available for firefighters (possibly in-house training)	No rationale provided
Give members the ability to sign up for weekend on-call	Staff would be available during summer weekends to ensure that the ATFD have the necessary personnel to be able to respond to calls even during the busy summer weekends.
Vehicle Exhaust Extraction	The fire halls should be equipped with such equipment to reduce risk of cancer.

Q24. If it were up to you, what would the Adjala-Tosorontio Fire Department be like 10 years from today and why?

This question allowed respondents to have input on the future of the ATFD; 24 of the 28 respondents took advantage of this opportunity: a valuable exercise given the respondents experience and expertise with the fire service. Three themes resonated with the respondents, including the need for the ATFD to become a composite department with full-time staff in the fire chief, deputy chief, fire prevention, and training positions, as well as one 24-hr crew; competitive renumeration to assure recruitment and retention; and adequate equipment and fleet to meet increasing call volume because of anticipated community growth.

Another recurring theme pertains to the current two stations working in silos (independent of each other). There is a consistent sentiment across many of the questions in the survey that the ATFD fire halls work independently of each other. It would appear that an increased effort on the part of the

senior officers to break down this divide with respect to the effectiveness, efficiency, and morale of the ATFD is required.

Q25. Are there any other comments/suggestions that you would like to add that would help to improve the services the Adjala-Tosorontio Fire Department delivers to the community and the firefighters?

Eighteen respondents answered this question. The answers, due to the personal tone of the question, may benefit the ATFD in their planning, development, and implementation of the FMP.

- *Retention at all levels, from Fire Chief down to probationary firefighter. One key piece of retention is the renumeration program and frequency of the pay. Due to the nature of our business, it is hard for some members to leave a job/take time off work for required courses or emergency incidents when we only get paid every three months. I believe the attendance requirements (call wise), need to be revisited however with the current renumeration hurdles it is difficult to ask for higher attendance from our members.*

  The only other comment I have is we need to find a way to achieve sustainability at the top of our department, the stress and confusion it creates with the Fire Chief position being a revolving door is a heavy burden to carry for many of our members. It is a huge hurdle to have to go through so many of the same exercises repeatedly because we are unable to retain a Fire Chief.

- *More educational Fire Prevention events/webinars/seminars/activities.*

- *Firefighter compensation, in comparison, to other departments, directly around us, is greatly under appreciated and lacking in all aspects. Greater compensation would make firefighters expenses related to the fire department, more manageable, and the sense of appreciation would also be there.*

- *The attendance should be relaxed, people have full time jobs and cannot make everything. We need a chief that stays around. We need tankers replaced. Before things are bought, they should be talked about with the firefighters and are going to use it and take input from them when buying things.*

- *Visit from Mayor and council so they can outline their support for our efforts.*

2.8.3 Council Members' Surveys

Four Council members contributed to the CAO & Council Members' survey.

Q1. Do you think the residents of the Township of Adjala-Tosorontio are getting fair value for their tax dollar in relation to the fire services provided? If so why, if not why?

When asked about the respondents' opinion regarding value for service, all respondents answered "yes." Three of the four respondents indicated that funding for the ATFD was reasonable, sufficient, and consistent with fair value for the constituents' tax dollar. Respondents also indicated that recruitment and retention was strong for the ATFD. One respondent stated that ATFD provided "*community support in addition to traditional fire protection at a value and cost few other municipalities can match, where every dollar is stretched to its limits and where firefighters contributed personally and voluntarily.*"

Unfortunately, the perception of the Council members does not align with the feelings and opinions expressed by the firefighters, who answered the Staff Survey. They felt that retention was problematic; adequate staffing responding to calls was problematic, and funding was problematic, especially with respect to adequate renumeration.

Thinking that *"every dollar is stretched to its limits and that it is satisfactory for firefighters to contribute personally and voluntarily"* is not sustainable and for the strategic long-term success for the ATFD and the Township.

Q2. Do you feel the community is protected by the present number of fire stations and fire apparatuses? If so why, if not Why?

All respondents feel that the community is protected by the present number of fire stations and fire apparatuses. There was a cautious tone suggesting that without support to a fleet management system, the ATFD and Township could face future challenges in maintaining public expectations about fire protection services, given the Township's anticipated growth.

Q3. Based on the future growth of the community, do you feel that the fire department can keep up with the demands in its present state? If not, what is missing?

Question #3 addresses the impact of growth vis-à-vis the level of protection currently provided by the ATFD. The respondents believe that more firefighters would be needed. In addition, most respondents felt that more apparatuses would be needed to maintain the level of service. However, one respondent cautioned that the current fire halls could not manage any increase in the ATFD's fleet. There is an opportunity to consider a long-term investment in fire hall renovation or renewal.

Q4. What do you believe are the greatest strengths of the current Adjala-Tosorontio Fire Department?

Question 4 addresses internal resources or capacity that the ATFD must effectively achieve to meet the goals and objectives of the core services it delivers. The following characteristics were identified by the respondents as the greatest strengths of the ATFD:

- Dedicated volunteers

- Quality of service delivery
- Public Education program

Respondents did not elaborate on the rationale for their selection of the strengths identified, leaving little to interpretation.

Q5. What do you believe to be the top risks/issues facing the Adjala-Tosorontio Fire Department (Barriers to response/delivery of service, recruitment, and retention)?

Recruitment and retention were identified by all respondents as an issue facing the ATFD. There was also a consensus amongst respondents that the current fire stations did not have the capacity to meet any staffing, apparatuses, or equipment growth associated with the anticipated Township's growth. Current management and firefighter turnover was also identified as a top issue. Finally, legislative changes impacting training and remuneration were also identified by more than one respondent.

All issues identified by the respondents were also addressed by both the ATFD firefighters and the community members through the Staff Survey and Stakeholders Survey, respectively.

Q6. How would you like to see the Adjala-Tosorontio Fire Department in the next 5 to 10 years in relation to serving the community, keeping in mind growth of the community?

The opinions expressed by the respondents are insightful and can be of excellent value in the formulation of the ATFD FMP. Interestingly, the issue of maintaining the status quo or amalgamation weighed on some of the respondents' minds in assessing long-term goals. For this reason alone, the opinions expressed are paraphrased:

- *Continue the full Township control and operation of the department*
- *Amalgamation with New Tecumseth*

In addition, respondents re-iterated the concern pertaining to maintenance of the current levels of service given the anticipated growth vis-a-vis the current infrastructure, equipment, and apparatus capacity to meet demands for growth.

Q7. Do you see an opportunity for the Adjala-Tosorontio Fire Department to develop strategic partnerships with other organizations in relation to cost and service efficiencies? if so, with whom and why?

All respondents felt that partnerships and outsourcing were strategies to mitigate costs associated with growth and to ensure service efficiencies. Respondents referred to current practices, including the MOA with BFES, for technical rescuer services. One area that all respondents supported the

introduction of partnership pertained to training. All respondents saw value in joint training exercises between ATFD and neighbouring fire services to reduce costs and maintain service efficiencies.

Q8. Can you share any input from your constituents in relation to the Fire Department, whether they are cost-related, service-related, or fire safety and education related?

There was one noteworthy concern regarding the lack of adequate water shuttle to rural areas of the Township, which was not serviced by hydrants (ability to provide water). There is an opportunity during the life of this FMP to consider Water Shuttle Accreditation to appease concerns regarding the ability to provide water in the rural parts of the Township not covered by hydrants.

Q9. Are there any other aspects or factors you believe should be considered that we have not touched on already? For example, fire station closures or additions, reduction in services by the fire department, or even an increase in services through the hiring of more fire personnel.

The last question from the CAO & Council Members Survey is an opportunity to address any matter that the survey may not have captured. Valuable information that will inform the formulation of this FMP was provided, which warranted a summarization below:

- *Consideration must be taken for response to medical calls in the future. Simcoe County Paramedics respond and transport all medical calls and with improvements in their service levels and response times, the fire department may wish to go to a tiered response.*
- *New Fire station has been provided for in DC Study in Everett. Shared services with the construction of the station should be considered.*
- *Fire Associations are a valuable part of each department, however, fundraising/purchase of equipment should be inline for department needs as replacement costs for such equipment will be borne in future capital/maintenance costs.*
- *Would like to see and hear more around a focused and dedicated position for fire prevention and education.*
- *In reviewing the response area capacity of each fire hall in New Tec, Essa and Adjala-Tosorontio, identification of potential 'zone' responses regardless of boundary lines.*
- *Ensure all FD members are provided training access and support for metal health.*

Section 2: Recommendations

Rec #	Recommendation	Suggested Timeline for Implementation	Estimated Costs	Rationale
1	Review and update all SOGS, including establishing an SOG Committee that meets on a pre-determined schedule and operates under newly developed Terms of Reference.	Immediate (0 to 1 year)	Staff Time Pending the decision to establish an SOG Committee, there may be a financial impact on the budget for firefighter participation.	Current SOGS provide clear direction on the expected operations of the ATFD.
2	With the completion of the CRA and this FMP, the Fire Chief should utilize the components of the two documents' recommendations for developing and implementing the CRR Plan.	Short-term (1-3 years)	Staff Time Some recommendations may include associated costs	Keeping track of the CRA and FMP recommendations, along with implementation and outcomes resulting from the recommendations, will ensure proper tracking and accountability.
3	Review input received from the surveys to identify further opportunities for the department and the community it serves in relation to educating the public on fire department operations and available services.	Short-term (1-3 years)	Staff time Some recommendations may include associated costs	Keeping track of the input received from the surveys can result in implementing new ideas, and sharing this information with staff will also support the value of their input.

SECTION 3

Fire Department Divisions

SECTION 3: FIRE DEPARTMENT DIVISIONS

Within the scope of work noted in the original RFP document, staffing and divisional needs was identified as a priority in which EMG was to review the capabilities of existing staffing and identify future needs for each of the divisions including Administration, Fire Prevention, Training, Suppression, and Communications.

3.1 Community Safety – Four Lines of Defence

The OFM community safety model revolves around three specific lines of defence - Public Education, Safety Standards and Enforcement, and Emergency Response. EMG views Emergency Management as the fourth, inclusive line of defence, and have added this into the overall concept of community safety.

i. Public Education – educating residents has proven to be the most effective means in reducing and preventing the incidences of fire and property damage. Reducing the number of fires before they start and identifying how the Town will continue to meet the fire education needs while the Town continues to grow and evolve.

ii. Safety Standards and Enforcement – ensuring that the inspection and enforcement of fire codes occur so buildings meet the required safety standards.

iii. Emergency Response – the availability of well trained and well-equipped firefighters to respond and effectively mitigate the incident is the third defence. The staff, equipment and fire station locations impact how the emergency is mitigated.

iv. Emergency Management – a town is legislated to have an emergency preparedness program to ensure the safety of the residents of the community by having a training, education, response, and mitigation plan in place for any possible emergency the community may encounter. More information on this topic can be found in Section 5.

Along with these four lines of defence, the following industry best practices help to inform a fire department of industry expectations. Neither the NFPA or the FUS are legislated requirements, and therefore do not have to be followed, but utilizing them to improve a community's fire service is encouraged by EMG.

3.2 National Fire Protection Association 1201

The NFPA Standard 1201 – *Standard for Providing Fire and Emergency Services to the Public* makes note of the services that should be offered and how they are to be delivered based on the composition of an emergency service.

Section 4.3.5 notes:

"*The Fire and Emergency Services Organization (FESO) shall provide customer service-oriented programs and procedures to accomplish the following:*

- *Prevent fire, injuries and deaths from emergencies and disasters.*
- *Mitigate fire, injuries, deaths, property damage, and environmental damage from emergencies and disasters.*
- *Recover from fires, emergencies, and disasters.*
- *Protect critical infrastructure.*
- *Sustain economic viability.*
- *Protect cultural resources.*

To accomplish this, an FESO must ensure open and timely communications with the CAO and governing body (council), create a masterplan for the organization, and ensure there are mutual aid and automatic aid programs in place, along with an asset control system and maintenance program."

3.3 Administration Division

A Fire Chief's role in a large or small fire department, requires regular interaction of council, and senior corporate management. Responsibility for Fire Protection Services found in Part 2, section 2, paragraph 6 (3), of the *FPPA,* 1997, S.O. 1997, states that *"A Fire Chief is the person who is ultimately responsible to the council of a town that appointed them for the delivery of fire protection services".* It is based on this provincial legislation that the Fire Chief needs to communicate directly and regularly with the council of a town to satisfy the requirements of the role.

The Administration Division in Adjala-Tosorontio includes the Fire Chief and an Administrative Assistant. Although the administrative staff are doing an admirable job at managing the department's day-to-day operations, there is no doubt that more resources are required.

With the OFM training and certification requirements to meet NFPA standards for all positions within the Department, the subsequent workload will most likely require a review of the administrative position's responsibilities. The following should be considered:

- There is a need to have administrative support at times when the present full-time staff member is away on vacation or otherwise unavailable.
- Based on the recent OFM training and certification requirements, there will be a need for more administrative support to ensure proper records management of training and certification records (which is currently a mix of paper-based records and certificates, along with the use of the record management system (RMS) program) to ensure that all required documentation is available if requested by the OFM (to verify certification of fire staff based on the level within the fire department).

ATFD will eventually require another administrative staff member; for now, this could come in the form of a part-time position (20 hours a week) to assist with the updating of the Department's RMS, specifically in the areas of fire prevention inspections and training certification requirements of the OFM. With the increased workload, this position could be moved into a full-time position as needed. This position would also be able to fill in whenever the full-time Administrative Assistant is out of the office for any length of time.

Note: *During the development of this master plan, EMG was advised that Council had approved the inclusion of a full-time Deputy Fire Chief. This new position will go a long way to increasing the capabilities of senior management and administration, reducing the workload and on-call requirements by the Fire Chief.*

3.4 Fire Prevention and Public Education

The evaluation conducted by EMG examined the ATFD's strategies to ensure community fire safety through fire prevention measures and public education. EMG reviewed ATFD's role in advising on new construction and its collaboration with relevant authorities overseeing building and planning. EMG also assessed the effectiveness of the Fire Inspection and Code Enforcement Program by juxtaposing it against existing structures and anticipated Township's growth. This evaluation aimed to ascertain the potential impact of the Township's developmental plans on ATFD's capacity to safeguard Adjala-Tosorontio from fires and disseminate fire safety knowledge. Furthermore, it facilitated a comprehensive understanding of the present and future requirements of ATFD, offering insights into enhancing their services.

The OFM plays a significant role in ensuring fire safety management through three primary avenues: educating the populace about fire risks, ensuring adherence to fire laws as stipulated in the Ontario Fire Code and *FPPA*, and establishing regulations while imparting fire

suppression techniques. Both the Town of Adjala-Tosorontio and ATFD align with these principles while tailoring their approaches to suit their community's needs.

This section of the report specifically delves into ATFD's endeavors in fire prevention, encompassing hazard assessments, public education initiatives, and the investigation of fire origins. An organization's efficacy in managing these facets illustrates its proficiency in averting fires and mitigating emergencies. This evaluation aids in prioritizing fire prevention efforts and allocating resources judiciously.

To comprehensively understand the Township's approach to fire safety, EMG consulted the Township's leadership and fire safety experts within the community to gain insights into their perspectives on fire prevention methodologies.

3.4.1 Fire Prevention and Public Education Resources

ATFD oversees fire prevention and public education through a structured framework relying on volunteers who fulfill various roles under the supervision of the Fire Chief and a volunteer FPO. While this organizational model effectively supports ATFD's ongoing functions, it falls short in facilitating growth and managing fire prevention operations to meet the goals and expectations of a proactive fire prevention program.

The recruitment, retention, and continuous challenges faced by volunteer and POC firefighters across Canada and North America represent a significant concern for municipalities. This issue has been underscored as a national concern for the Canadian Fire Service by the Canadian Association of Fire Chiefs (CAFC). Ensuring the availability of staff for operational response and the promotion of fire prevention and public education initiatives poses a challenge, hence the strategy of cross-training staff for both emergency response and fire education responsibilities, aiming to ensure a sufficiently equipped workforce for ATFD (and other volunteer fire departments). However, this type of cross training of the volunteers is not sustainable (due to the educational requirements and the recruitment and retention challenges) in meeting the fire prevention goals of the ATFD.

3.4.2 Public Education Activity Opportunities

The primary objective of public education remains to ensure comprehensive safety awareness across all age groups concerning fire and related hazards. Public Education covers a broad spectrum, spanning from social media announcements to face-to-face classes and training sessions. A diverse program increases the chances of reaching a wider range of people within the community. When the community is well-informed and knowledgeable about fire and life safety risks and has clear strategies and actions to follow, it significantly improves the effectiveness of any emergency intervention by ATFD. Essentially, the better informed the

residents are, the less severe a fire emergency is likely to be. In Ontario the *FPPA* legislates that each municipality, as a minimum, must establish a program of public education with respect to fire safety[6]. An example is a smoke alarm program that ensures there are working smoke alarms in every residence. Other content of the public education program is largely left up to the local fire department to determine based on the needs and risk within the community.

ATFD has the potential to introduce an initiative centered on residential smoke and carbon monoxide (CO) alarms, wherein they provide temporary smoke alarms to the public during emergency responses via volunteer crews. Subsequently, a career fire prevention officer/inspector can conduct follow-ups on these incidents to ensure property owners receive permanent replacements for these alarms. This follow-up also serves as an opportunity for personalized education on home fire safety and addressing any related concerns. The efficacy of this program heavily relies on ATFD's active engagement with residents.

Proactive community involvement in Adjala-Tosorontio becomes imperative in raising awareness about the significance of smoke alarms. Furthermore, numerous fire departments utilize targeted communication through platforms like social media, advertisements, media campaigns, and events such as Fire Prevention Week open houses or community fairs to complement smoke alarm programs.

Many communities develop additional public education programs with a variety of elements designed to target specific segments of the community. EMG points to the following programs as suggestions to build out a comprehensive public education program:

- Older and Wiser – designed with seniors and the unique hazards they face.
- Farm Safety – for communities with significant agricultural risks.
- Fire Prevention Week programming – many communities utilize this annual North American-wide event to target schools.

[6] Ontario, "*Fire Protection and Prevention Act*, 1997, S.O. 1997, c/4, Subsection 2(1)," accessed June 29, 2023, https://www.ontario.ca/laws/statute/97f04

- CO awareness – National awareness campaigns usually occur in November every year as heating season approaches.
- Babysitter Program – often offered in partnership with agencies such as Red Cross or St. John's Ambulance. Targeted to teens that are becoming more independent.
- Fire Extinguisher Training – often provided on a cost-recovery basis for community associations, businesses, and their employees.
- Heating Safety/ Burning with Wood Safety – Usually provided in the fall and winter months to emphasize the importance of maintaining heating equipment, cleaning chimneys, etc.
- Electrical Safety – Often utilized in communities with a large inventory of older buildings that may not have contemporary electrical installations.
- Home and Building Renovation Safety – frequently offered in conjunction with local building officials and utility providers to promote safe renovation practices and permit promotion.
- Secondary Suites/Basement Apartment Program – to promote a municipal inter-departmental approach to basement apartment conversions (zoning, property standards, by-law, health, and fire department specific issues). With adequate housing being a national priority, more municipalities are looking at ways to densify and provide housing units.
- Juvenile Fire Setters Program – TAPP-C operating collaboratives with police, local health services, schools, and child and family services agencies.
- Learn Not to Burn – promotes the use of a comprehensive fire safety-based curriculum for use by teachers in an elementary school setting.
- Home Escape Planning – How to plan a way out if there is a fire emergency.
- Community partnerships

Based on the information obtained by EMG, ATFD stands to benefit from expanding and formalizing its public education endeavours by prioritizing the growth and sustained funding of fire inspection and public education programs. Attracting individuals capable of fulfilling these roles, while also serving as volunteer firefighters fortifies ATFD's resilience within its existing staffing structure to deliver fire prevention and public fire safety education services. Training for these dual roles is accessible through offerings provided by the Ontario Fire College and various public and private educational institutions across Canada, many of which offer online courses, thereby reducing barriers to obtaining specialized education.

Numerous organizations, such as NFPA, Ontario Municipal Fire Prevention Officer's Association (OMFPOA), and Ontario Association of Fire Educators (OAFE), actively assist local fire departments in public education efforts, offering a wealth of contemporary fire safety concepts. Ensuring the competence of individuals engaged in teaching fire safety is paramount, with established standards like NFPA 1035 for public educators, NFPA 1031 for Fire Inspectors, and NFPA 1033 for Fire Investigators serving as benchmarks.

Fostering robust relationships with the media is indispensable, as effective public education requires comprehensive outreach. Collaborating with newspapers, TV outlets, and social media platforms like Facebook, Instagram, and Twitter (now X) enables ATFD to effectively connect with the community and disseminate vital safety information.

ATFD should continue to expand its fire inspection and public education initiatives, leveraging the recruitment of individuals capable of fulfilling dual roles as educators and firefighters. Accessible training opportunities, such as those offered by the Ontario Fire College, including online courses, are pivotal in equipping individuals with essential knowledge and skills.

While all these initiatives are positive and proactive, with the growth of the community and the ongoing requirements of meeting the OFM fire prevention and education expectations, the creation of a full-time FPO/PFLSE position will create more stability in the ATFD to ensure ongoing fire prevention and enforcement goals are met on a consistent basis.

3.4.3 Fire Cause Determination Activity Opportunities

The *FPPA* requires the Fire Chief to report all fires to the Fire Marshal and provides specific powers for the Fire Chief and other members of the department who are appointed as "Assistants to the Fire Marshal" to enter on land or premises where a fire has occurred or is likely to occur. These are generally described in Subsection 14. (2) of the *FPPA* as follows:

> *14. (2) – Upon entering on land or premises, the fire chief may:*
>
> > *(a) close, and prevent entry to, the land or premises for the length of time necessary to complete the examination of the land or premises.*
> >
> > *(b) in the case of an entry under clause (1)(a), remove from the land or premises, retain, and examine any article or material, and take such samples or photographs, make videotapes and other images electronic or otherwise that in his or her opinion may be of assistance in determining the cause of the fire under investigation.*

(c) make such excavations on the land or premises as he or she considers necessary.

(d) require that any machinery, equipment, or devices be operated, used or set in motion under specific conditions; and

(e) make any reasonable inquiry of any person, orally or in writing.

It is important for the fire department to investigate and identify where and how fires start. This helps for a few reasons:

a) to teach people how to prevent fires and make them more fire safety conscious;

b) to identify defective things that might cause more fires; and

c) to see if a fire was an accident or done on purpose, which could be a crime.

In Adjala-Tosorontio, the Fire Chief, who is also the Chief Fire Official, is responsible for investigating and identifying out how fires start. Usually, in many fire departments, the job of investigating fires is given to the FPO or similarly trained staff. This is another reason for supporting a full-time FPO, to assist with conducting fire origin and cause investigations.

Numerous organizations actively contribute to advancing the field of fire cause determination, such as the Canadian Association of Fire Investigators (CAFI) and the International Association of Arson Investigators (IAAI). Membership in these organizations provides invaluable resources for local investigators, ensuring they stay updated on the latest trends and scientific advancements.

To further enhance its fire cause and determination program, it is advised that ATFD invest in ongoing education for selected staff members, incorporating certification aligned with the NFPA 1033 standard. Establishing funding for this program, including support for attendance at specialized seminars, is essential for continuous development. Considering membership in OMFPOA, CAFI, and IAAI as part of this initiative is also recommended. Securing high-quality continuing education in fire investigation is challenging, and affiliating with these industry groups remains an effective method to uphold proficiency.

Additionally, it is suggested that ATFD formulate SOGs based on the recommendations outlined in this section, adapting them as necessary. This proactive approach will aid in streamlining procedures and optimizing practices in fire cause.

3.4.4 Fire Code Inspection and Enforcement Activity Opportunities

Having a solid inspection and code enforcement plan is crucial for every community in Ontario to prevent fires. Inspectors who are trained and certified can lower the risk for a community by inspecting and enforcing OFC requirements.

ATFD is doing what most towns and emergency groups of the same size do. They presently conduct inspections mainly on a complaint or request basis, which does meet the minimum requirements of the OFM, but falls short of being proactive in a growing community like Adjala-Tosorontio.

On going discussions with the Fire Chief indicated concerns with FIREHOUSE, the fire department's RMS, and the alignment with the RMS used by Fire Dispatch and the Building Department. A complete inventory of public buildings should be maintained in FIREHOUSE, or whichever RMS ATFD uses. A partial list has been provided by ATFD, and this indicates there is substantial building stock of a level of complexity that needs to be further documented and inspected on a proactive fire inspection program.

3.4.5 Fire Underwriters Inspection Benchmark

The FUS functions as an entity aiding the insurance industry by evaluating communities and assigning a risk score. This score serves as a basis for insurance underwriting companies to gauge the level of risk, influencing the foundational cost of insurance premiums. Subsequently, brokerage firms utilize this assessment in formulating insurance policies for consumers. FUS conducts a comprehensive analysis encompassing various factors such as the community's water supply systems, structure of the fire department, available resources, fire station locations, and staffing.

In terms of inspection programs that have an impact on fire rates, FUS recommends inspection intervals for various community elements based on the following table (provided for illustrative purposes only).

TABLE #1: FUS RECOMMENDED INSPECTION FREQUENCY

Occupancy Type	Inspection Frequency Benchmark
Assembly (Class A)	3 to 6 months
Institutional (Class B)	12 months
Single Family Dwellings (Class C)	12 months
Multi-Family Dwellings (Class C)	6 months
Hotel/Motel (Class C)	6 months
Commercial (Class E)	12 months
Industrial (Class F)	3 to 6 months

Each type of building comes with its own set of risks and complexities. In larger fire departments, inspectors often specialize in specific building classifications. For instance, a multi-unit dwelling could range from a converted home turned into a small apartment complex to a six-storey, non-flammable building. These structures vary in characteristics and Fire Code requirements based on factors like size, construction, and how many people use them.

The FUS frequency chart helps determine which buildings need inspections and how often. However, many municipalities are shifting away from this rigid approach to inspection frequencies and moving toward a more risk-focused strategy. This means higher-risk buildings get more attention and resources to prevent emergencies.

ATFD should keep cataloging the different types of buildings in the community, assigning risk scores to them, and then create an inspection plan that fits well with Adjala-Tosorontio and the current staffing resources.

In reviewing ATFD's inspection practices, EMG found that very few inspections lead to formal charges under the *Provincial Offences Act* for Fire Code violations (Part I or Part III). While this seems to meet the community's needs, EMG suggests the Department look into initiating formal charges if voluntary compliance does not happen reasonably quickly.

Currently, inspections are documented using FIREHOUSE software upon the inspector's return to the office. Paper-based reports are still used, and transitioning to digital records might be more efficient. Inspectors equipped with handheld devices and portable printers could create reports on-site, sharing results with property owners before leaving. Shifting towards digital record-keeping aligns with the municipality's policies on record retention.

3.4.6 Pre-Incident Planning

ATFD has a rudimentary pre-incident planning system, whereby staff inventory buildings, provide information, and then save them into a Word or PDF file available on fire apparatus for emergency response. This function should be expanded and formalized.

The benefits of a more formal program will ensure that fire operation staff have the most current information when responding to incidents. By providing resources for the existing fire prevention and education staff to complete these plans, ATFD will have a higher reliability of the data obtained.

3.5 Training Division & Staff Development

Specific to the goals and objectives of the FMP, this section presents a review and recommendations regarding the firefighter training program, including recruit training, firefighter training, and officer training.

Measurable targets and quantifiable areas for ongoing improvement were developed based on ATFD levels of service applied against NFPA 1201: *Standard for Providing Fire and Emergency Services to the Public*; NFPA 1041: *Standard for Fire and Emergency Services Instructor Professional Qualifications*; NFPA 1006: *Standard for Technical Rescue Personnel Professional Qualifications*; NFPA 1401: *Recommended Practice for Fire Service Training Reports and Records*; NFPA 1402: *Guide to Building Fire Service Training Centers*; NFPA 1403: *Standard on Live Fire Training Evolutions*; and NFPA 2500: *Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services*.

The staffing exercise was based on a standard workload flow analysis (SWF) against the training job performance requirements identified in NFPA 1041.

The *FPPA*, 1997 identifies the responsibilities of a municipality vis-à-vis fire protection services:

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.

To that end, Ontario municipalities adopt an E&R By-law identifying the level of services to be provided based on needs and circumstances. The E&R By-law informs the fire department about the type and level of training required. In the summer of 2022, Ontario Regulation 343/22: Firefighter Certification under the *FPPA*, 1997 came into force, identifying that any firefighter performing a fire protection service is certified, at a minimum, to the corresponding certification standard set out in the regulation:

2 (1) Every municipality, and every fire department in a territory without municipal organization, must ensure that its firefighters perform a fire protection service set out in Column 1 of Table 1 only if, on or after the corresponding day specified in Column 3 of that Table,

(a) the firefighter performing the fire protection service is certified, at a minimum, to the corresponding certification standard set out in Column 2 of that Table.

In addition, Part III of the *OHSA*identifies the duties of employers stating that:

25 (2) Without limiting the strict duty imposed by subsection (1), an employer shall,

(a) provide information, instruction, and supervision to a worker to protect the health or safety of the worker,

(c) when appointing a supervisor, appoint a competent person; and

(h) take every precaution reasonable in the circumstances for the protection of a worker.

Complimenting the *OHSA* are the Section 21 Firefighter Guidance Notes that provide best practices for protecting the health and safety of fire service workers in Ontario. Of particular importance to training is Part 7 of the Guidance Notes which focuses on training.

A thorough and exhaustive review of the ATFD's training programs, including interviews with senior staff responsible for training, indicated that the ATFD has a formal training program. However, the training program does not address all relevant training required for all positions within the fire department. EMG therefore recommends a career path model for all specialised functions/positions within the ATFD.

Firefighting is a high-risk profession. Training is essential to enable firefighters to respond more efficiently to emergencies, reducing the property damage caused by fire, loss of life, and public hazards, as well as reducing personnel injuries. Although the ATFD has a career path model for firefighter maintenance training, recruit firefighters, there is limited documentation regarding career path modeling for other specialised positions, such as FPO, fire investigator, public educator, or technical rescuer.

Furthermore, the ATFD career path model is lacking a robust promotional policy. The current promotional process for firefighter increments and officer advancement are rudimentary with no sets of SOPs or policies. A robust promotional policy goes a long way toward positive recruitment and retention. Recruitment and retention are systemic conundrums within the fire service, especially within the volunteer departments.

Whether assigned to Operations, Training, Fire Prevention (Community Risk Reduction), or Administration, staff must have the knowledge, skills, and abilities necessary to provide reliable fire protection services.

The recommendation to enhance the current ATFD's career path model will greatly benefit the ATFD and the Township by boosting morale, impact the betterment of the work environment, and mitigate some of the impact of poor recruitment and retention affecting volunteer fire services.

Regarding training and professional development, *NFPA 1201*: *Providing Fire and Emergency Services to the Public* stipulates:

> 4.11.1 Purpose. *"The Fire and Emergency Service Organization (FESO) shall have training and education programs and policies to ensure that personnel are trained, and that competency is maintained to effectively, efficiently, and safely execute all responsibilities."*[7]

NFPA 1500*: Standard on Occupational Safety, Health, and Wellness Program* states that:

> *5.1.1. "a fire department shall establish and maintain a training, education, and professional development program with a goal of preventing occupational deaths, injuries, and illnesses."*[8]

[7] "Standard for Providing Fire and Emergency Services to the Public," Retrieved January 30, 2022, https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1201

[8] "Standard on Fire Department Occupational Safety, Health, and Wellness Program," Retrieved January 30, 2022, https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1500

NFPA 1500 also states that… *"training programs should include but not be limited to the following: community risk reduction (fire prevention, public education, investigation, etc.), health and safety, fire suppression, emergency medical, human resources (leadership, supervision, interpersonal dynamics, equal employment opportunity, etc.), incident management system, hazardous materials, technical rescue, information systems and computer technology, position-specific development (firefighter, company officer, chief officer, telecommunicator, investigator, inspector, driver/operator, etc.)."*[9]

The Commission on Fire Accreditation International (CFAI) has a specific section that evaluates the training component of a fire department. The CFAI states:

> *"Training and educational resource programs express the organization's philosophy and are central to its mission. Learning resources should include a library; other collections of materials that support teaching and learning; instructional methodologies and technologies; support services; distribution and maintenance systems for equipment and materials; instructional information systems, such as computers and software, telecommunications, other audio-visual media, and facilities to utilize such equipment and services. If the agency does not have these resources available internally, external resources are identified, and the agency has a plan in place to ensure compliance with training and education requirements."*

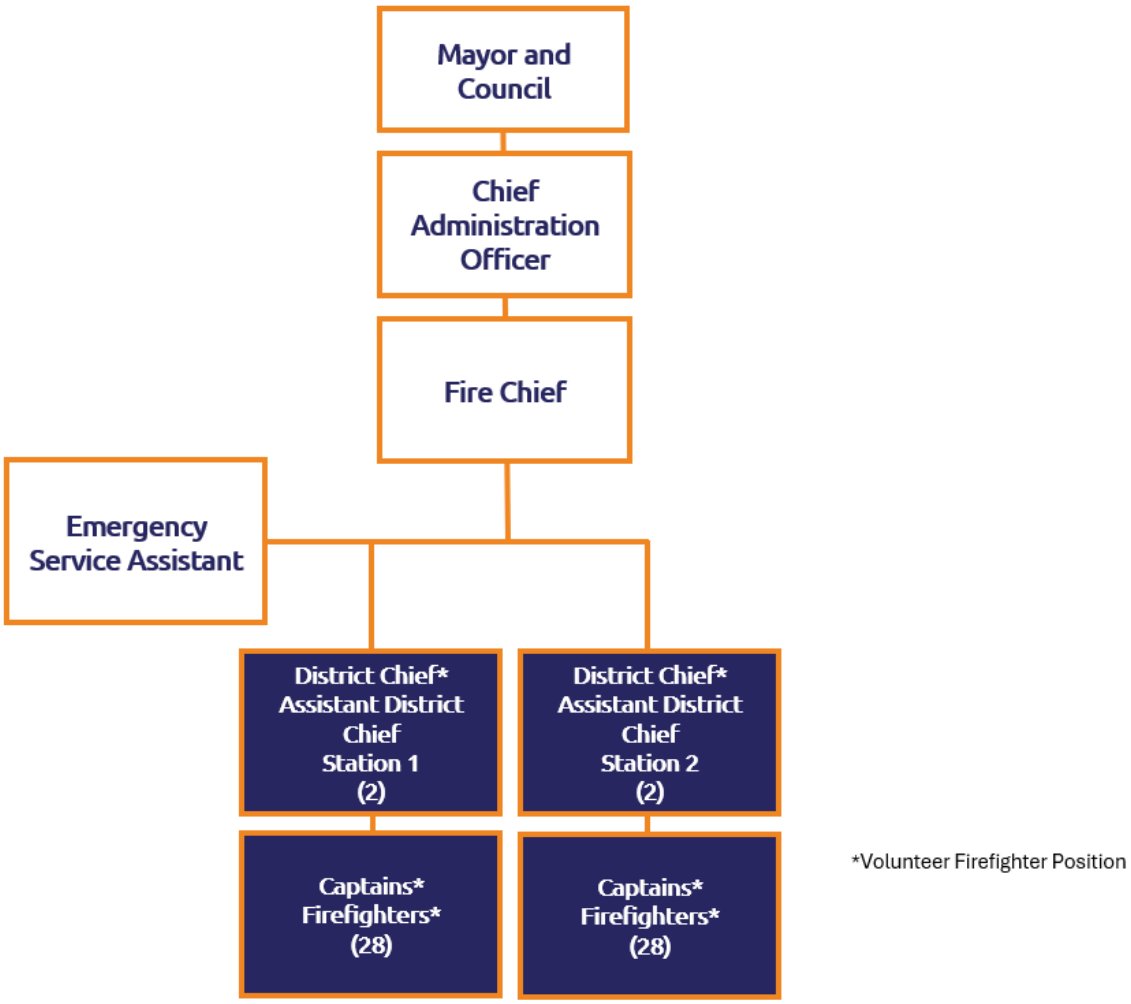
A review of ATFD's training identified strengths, weaknesses, opportunities, and threats (SWOT) surrounding organizational structure, staffing, workload, on-shift training, training facilities, divisional training, record keeping, and promotional process. These issues will be addressed separately in the following sections.

3.5.1 Training Division Organizational Structure

The current ATFD organizational chart does not identify a training division (figure #4). EMG's investigation revealed that training is a function of the ADCs at each of the Loretto and Everett fire stations. The ADCs work with their respective District Chief to develop training programs and an annual training schedule.

[9] NFPA 1500 Annex A.5.1.1

FIGURE #4 - 2023 ADJALA-TOSORONTIO FIRE DEPARTMENT ORGANIZATIONAL CHART



In the case of the ATFD and with respect to training, the two fire stations work autonomously. This inward focus contributes to breakdowns in communication, breakdowns in co-operations, and promotes fragmented behaviours between fire station staff, encouraging reluctance to integrate with the other fire station. The "Silo Effect" leads to duplication of training, duplication of expenses, and reduction in productivity.

In addition to organizational silos, EMG observed evidence of "silo mentality" mind-set with staff through survey responses analyzed in completion of this FMP. The lack of a central training division is contributing to both the organizational silos and the silo mind-set of ATFD.

The current training model contributes to the concerns expressed by ATFD staff in the EMG-driven Staff Survey, where a recurring theme pertained to the need for a full-time Training Officer to alleviate training issues such as lack of training in some areas, some stagnation in training, some disenchantment with the" how" and the "what" programs offered, funding concerns, and lack of training co-operation between stations, etc.

The Silo Effect issue was confirmed during interviews with the ADCs. They acknowledged the minimal cooperation and minimal joint training exercises. Further, the interviews revealed that the two stations have separate training schedules, separate training programs, separate recordkeeping, etc. EMG identified an overall duplication of efforts with respect to training.

The ADCs acknowledged that the lack of training co-operation contributed to reinforce the autonomy of each fire station with staff.

Addressing the ATFD organizational structure by creating a training division would have a positive impact on the current siloed operations within the ATFD. To ensure effectiveness in reducing or eliminating the silo effect, the Training Division should be centralized and report to the Fire Chief position or the newly created Deputy Chief position. The Training Division would also need to have the coordinating position at a new rank position of ADC to ensure oversight to both fire stations' training.

The centralized training would ensure a unified training schedule, unified training programs, joint training exercises, and standardized recordkeeping, while eliminating duplication and ineffective productivity. Hence, EMG recommends that ATFD creates a Training Division, where the division is under the tutelage of either the Fire Chief or the Deputy Chief and where the coordination of the division is the responsibility of a staff with the rank of Assistant Deputy Chief (ADC) with oversight of the training across both stations.

Training delivery at each fire station can remain under the functions of the ADC. However, while with respect to operations, the ADCs would still report to the District Chief of the fire station; with respect to training, the ADC would report to the Training Division -Assistant Deputy Chief.

The creation of a Training Division would require the creation of a new position. While EMG recommends that the Training Division be staffed with an officer in the rank of Assistant Deputy Fire Chief, there are options on the creation of the position.

- Option A: ATFD hires a full-time Assistant Deputy Fire Chief of Training. This option would require the ATFD to increase its full-time employee (FTE) by one personnel. There would be wages and salaries increase of approximately $100K to $120K.

- Option B: ATFD creates a volunteer Assistant Deputy Fire Chief of Training. This option would require the ATFD to increase its volunteer employee by one personnel. Renumeration should be appropriate for the workload and level of responsibilities required of the position.

- Option C: In this FMP, EMG proposed the hiring of an FPO. ATFD could hire a full-time Assistant Deputy Fire Chief with dual responsibilities of Prevention and Training. The "dual responsibilities" are feasible if training delivery and public fire and life safety education functions are supported by dedicated volunteers from each station.

Secondly, the ATFD should consider providing clerical support to the proposed Training Division. One weakness often identified in organizations, especially with the recent introduction of technological tools where staff are more engaged in some form of clerical work, is the elimination of clerical assistance or administrative support.

Clerical expertise brings skills such as organization, communication, and administration required to handle most clerical tasks in an organization. The ATFD Training Clerk would allow the management, in this case the Assistant Deputy Fire Chief, to manage and supervise the departmental training operations, while recordkeeping and administration as recommended under NFPA 1401: *Recommended Practice for Fire Service Training, Reports, and Records* would be duly performed by a dedicated administrative assistant. This would greatly align with training priorities as set in By-Law 2023-42: *A By-law to Establish and Regulate the Adjala-Tosorontio Fire Department and to Repeal By-law 11-24, as amended*, while ensuring long-term sustainability, efficiency, and effectiveness of the ATFD training functions.

This administrative support model would allow the "Training Division" to be staffed with personnel with strong administrative, organizational, and communication skills. These skills are imperative in training due to extensive clerical works pertaining to curriculum development; organizational skills required for extensive scheduling needs for various programs being taught; administrative skills required to prioritize workload and managing extensive record keeping associated with training functions consistent with NFPA 1401 and Section 21 Part 7 recommended practices.

The recognition of the value of clerical assistance for the ATFD along with high workload demands highlights an excellent value for money for the municipality. However, more is still required. As such, EMG recommends that the ATFD hire a full-time training clerk or collaborate with another municipal department and share the administrative support.

3.5.2 Staffing Levels and Workload

There are several core fire protection services identified in the Township of Adjala-Tosorontio By-Law 2023-42 and delivered by the ATFD. The core services provided by ATFD are identified under seven main categories including Emergency response; Fire Prevention and Public education; Fire Administration; Communication/Resources Centre; Training and Education; Maintenance; and Support Services.

According to the By-Law 2023-42, training core services includes 1) *Program Development Practices for all core services seven main categories;* 2) *Provision of access to training facilities*; 3) *Station training practices*; 4) *Development of the Accountability System*; 5) *Development and Distribution of Standard operating Guidelines for various discipline*.

EMG's investigation revealed that the first three functions, identified above, fall under the responsibilities of the ADCs. It was not clear as to who was responsible for function four and five mentioned above. Currently, the training services does not conform to the requirements set forth in the By-law 2023-42. As part of its panoply of training programs, the ATFD have a firefighting maintenance program, a recruit training program, an officer promotion program, and a live fire program held at the Honda Training grounds. Training delivery is the responsibility of appointed captains at each fire station.

Training pertaining to the core services of Prevention, Administration, Communications, Maintenance, and Support Services, as well as Succession Training Program, and Self-Directed Learning Programs have not been identified as part of the current ATFD training mandate.

When considering all the roles and responsibilities associated with training to meet the training goals and objectives of the ATFD, EMG conducted an SWF analysis to evaluate appropriate staffing levels. The SWF was based on the NFPA 1041: *Standard for Fire and Emergency Services Instructor Professional Qualifications*.

According to the NFPA 1041, the management of fire service training programs requires a manager, regardless of fire service affiliation or instructor level, who can accomplish the following tasks[10]:

- Budgeting
- Resource management
- Management of personnel
- Management of instruction
- Program evaluation
- Training needs analysis
- Scheduling
- Goal setting
- Networking with other training agencies
- Technical writing
- Effective verbal and written communication

Within the ATFD, these tasks fall under the responsibilities of the ATFD ADCs.

The following chart represents an approximation of the current ATFD Training SWF. According to the EMG's review of the ATFD Training, notwithstanding the requirements of the By-Law 2023-42, there are six active training programs, including Suppression maintenance training, Recruit training, Promotional Process for Officers, HAZMAT (Awareness Level), Live fire training, and Auto Extrication.

Each program has various offerings. For instance, suppression maintenance training involves five training sessions per month, live fire involves a few weekends a year during the summer at the Honda Training facilities, and water management (Everett Station) and auto extrication involves a few weekends a year. The analysis did not include recruit training, which is currently outsourced.

[10] NFPA 1041: Standard for Fire and Emergency Services Instructor professional qualifications, 2019 Edition section E2 p.1041-25

Based on EMG's analysis, the estimated number of days to properly plan, develop, implement, and evaluate each of the six training programs a year would require 150 days for each program (Table # 2). Given that one full-time person works on average 227days a year (based on 52 weeks, 13 statutory holidays, and an average of four weeks vacation), to properly manage the current training program, the ATFD would require four full-time staff (workload divided by one-person work year [900 divided by 227 = 3.96 staff]).

Given that the ATFD Training Division relies on two volunteer ADCs to plan and develop the programs and on appointed volunteer captains to implement and evaluate the programs (delivery and testing of training), the current ATFD training model does not adequately meet the ATFD training needs; a theme that was clearly identified in the Staff Survey.

A compounding factor contributing to staffing levels for ATFD training is the Ontario Regulation 343/22: Firefighter Certification, made under the *FPPA*, 1997. Adhering to the core training services identified in Appendix "C" of the By-Law 2023-42, this compounding factor will significantly accrue the workload for the ATFD training and necessitates consideration for the creation of a training division staffed adequately with at least one full-time Training Officer supported by a training clerk.

EMG believes that a full-time training Officer supported by an administrative assistant and the current Assistant District Chiefs and Captains dedicated to training delivery would equate the identified four full-time personnel to adequately meet the current training needs of the ATFD and provide the additional workload prescribed by the By-law 2023-42.

TABLE #2: TRAINING SWF CALCULATION IN DAYS

Position	Duties	No. of Days
Administration	Include all aspects of managing the program, including budgeting, recordkeeping, and reporting.	20 days
Scheduling	Preparation and posting of annual, weekly, and/or daily schedule	20 days
Direct Delivery	Several programs are the direct responsibility of the training officer to deliver, such as Recruit Orientation	40 days

Position	Duties	No. of Days
Marking		10 days
On-shift trainer support	Support to 4 platoons at 4 stations	10 days
Program evaluation	Review and update of programs to assure currency of learning materials	10 days
Training needs analysis	Evaluation of new programs to meet the needs of the FFD	5 days
Coordination with external training providers	Several programs are offered by external training providers and require coordination with external agencies for smooth delivery	5 days
Curriculum development	Development of lesson plans for all training programs	20 days
Training facility	Maintenance of training facility to assure constant operational availability	5 days
Equipment and training prop maintenance	Maintenance of equipment in proper working order	5 days

EMG recommends that the ATFD create a full-time Training Officer position to manage training needs for the ATFD. Although EMG's analysis suggests that 4 (3.96) full-time staff would be required to support ATFD training needs adequately, EMG is of the opinion that one full-time dedicated Training Officer supported by a training clerk responsible for day-to-day administration of records and clerical duties associated with program development, lesson plans, scheduling, etc., would suffice to administer the ATFD training needs adequately. The full-time Training Officer would coordinate and supervise training delivery through the ADCs and captains as per the current model. A full-time Training Officer would provide consistency and uniformity in training delivery.

Furthermore, during EMG's training review, it was identified that the ATFD currently does not provide financial incentives or appropriate remuneration for appointed training captains at each fire hall. Training delivery is dependent on the generous support of trainers. With the adoption

of the Firefighter Certification regulation, it is becoming necessary to structure training to ensure a sustainable future, given the anticipated growth and training needs of the ATFD.

EMG further recommends that the ATFD adopt a remuneration policy for appointed instructors/trainers to ensure the quality of instructors and quality of instructions, including certification to Level 1 of NFPA 1041: *Standard for Fire and Emergency Services Instructor Professional Qualifications*.

For these reasons, it is imperative that ATFD properly structure training by having adequate job descriptions for all positions and proper remuneration for a full-time Training Officer, appointed trainers, and a full-time or shared Administrative Assistant to fill a Training Clerk position.

3.5.3 Training Facility

The ATFD does not have a dedicated training facility or a Training Division. As mentioned, the ADCs oversee training delivered at each fire station by appointed captains. However, the ATFD Loretto Fire Station does utilize the 2nd floor of the fire station to house a Search & Rescue prop (figure #5). EMG recommends that the ATFD ensure that any training props comply with NFPA 1402, *Standard on Facilities for Fire Training and Associated Props*.

FIGURE #5 - ATFD LORETTO STATION SEARCH & RESCUE SETUP (2ND FLOOR WEST SIDE OF FIRE STATION)

The classrooms have an occupancy load to accommodate the station staff. Each classroom is equipped with adequate technology (Wi-Fi and A/V). However, the classrooms lack interconnectivity or interoperability with the municipality. In addition, there are limited computers to support adequate self-directed learning. Currently, the ADCs are responsible for planning and scheduling training sessions at their respective fire station. There are four training

sessions each month. Although the ATFD has one annual training schedule, training sessions are individualized by the fire station.

FIGURE #6 - ATFD CLASSROOMS

Fire Station No. 1 Everett - Classroom

Fire Station No. 2 Loretto – Administration Meeting Room

The ATFD has access to Alliston's Honda Canada training facility. The Honda facility accommodates live fire training for both Class "A" and Class "B" fires (Figure #7). EMG applauds the ATFD's use of the Honda Emergency Services Training Facility. EMG's review of the Honda training facility suggested that any live fire training complied with NFPA 1403: *Standard on Live Fire Training Evolutions*. EMG recommends the ATFD create a Live Fire Training SOG to support their live fire training efforts.

FIGURE(S) #7 - HONDA CANADA EMERGENCY SERVICES TRAINING FACILITY

3.5.4 Training Programs

HAZMAT Training

According to the Township of Adjala-Tosorontio By-Law 2023-42, the ATFD is a full-service fire department, and the Ontario Regulation 343/22 requires a full-service fire department to train firefighters to the Operations Level for HAZMAT response. EMG noted that although recruits are certified to HAZMAT Operations Level, the department operates and trains at the Awareness Level. Thus, the maintenance training is to the Awareness Level.

The By-Law states that the City of Barrie provides HAZMAT operations and technician Levels through a Memorandum of Understanding (MOU) adopted through the Township of Adjala-Tosorontio By-Law 22-102 and By-Law 22-101. However, the MOU stipulates the Township of Adjala-Tosorontio shall "provide additional personnel, equipment, support, and agencies as may be requested by BFES." Training to the HAZMAT Awareness Level does not provide adequate knowledge and expertise to support BFES in case of a HAZMAT response. This risk can be managed by ascertaining that the ATFD trains its firefighters to the NFPA 1072 Operations Level.

The current HAZAMAT program is an extension of the NFPA 1001: *Standard for Fire Fighter Professional Qualifications*, which includes the requirements defined in Chapter 5 as well as mission-specific competencies in Section 6.2, Personal Protective Equipment, and Section 6.6, Product Control, of NFPA 1072[11]. EMG recommends that the ATFD sets its HAZMAT training to the Operations Level to adhere to their core service as prescribed in the By-Law 2023-42 and to adhere to the MOU with the City of Barrie regarding provisions of special operations services.

With the adoption of Ontario Regulation 343/22: Firefighter Certification, it will become incumbent for the ATFD to become more engaged in personnel testing and certification. For consistency of training, HAZMAT training, testing, and certification, it would be prudent for the ATFD to develop, update, and maintain the HAZMAT training program in accordance with NFPA 1072 Operations Level, including the review of learning outcomes to reflect the goals, procedures, and training needs of the ATFD, while assuring adequate preparation for successful provincial testing for all staff.

[11] NFPA 1001: Standard for Fire Fighter Professional Qualifications, 2019 Edition

Technical Rescue Training

Currently, the ATFD technical rescue core services identified in By-Law 2023-42 are Water and Ice Rescue - Shore Based, with Water and Ice Rescue – Water Entry or Boat Based, as well as High Angle Rescue and Confined Space Rescue provided by the City of Barrie through an MOU.

EMG's review of technical rescue training programs indicated that ATFD firefighters are trained at the Awareness Level for all identified technical rescuer programs. The wording used in the By-Law 2023-42 is nebulous, and EMG recommends that the Township of Adjala-Tosorontio By-Law 2023-42 be updated to align technical rescuer core services with wording from Table 1 of the Ontario Regulation 343/22 to avoid misunderstanding as to the adequate level of service provided and to avoid unnecessary training expenses.

Secondly, like the HAZMAT training concern, the current technical rescuer training at the Awareness Level contravenes the Township's responsibility prescribed in the MOU with the City of Barrie, where ATFD's training does not provide adequate knowledge and expertise to provide support to BFES in case of a Technical Rescue response. EMG recommends that all staff be trained to the Operations Level for any technical rescuer core service identified in the Township of Essa By-Law 2023-42.

In addition, all technical rescuer training programs should be monitored to adhere to the NFPA 1006: *Standard for Technical Rescue Personnel Professional Qualifications* and in accordance with Ontario Regulation 343/22: *Firefighter Certification*.

EMG also recommends that the ATFD aligns its technical rescuer operations and training to NFPA 2500: *Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services*. This standard specifies the minimum requirements for the ATFD-identified levels of functional capability for conducting operations at technical search and rescue incidents while minimizing threats to rescuers.[12]

Auto Extrication Training

EMG noted that the current auto extrication curricula do not meet the NFPA 1006 and NFPA 2500 requirements for auto extrication and vehicle search and rescue, respectively. With the adoption of the Ontario Regulation 343/22, certification to the appropriate levels will be required by the 1st of July 2026. Although the ATFD is diligently working to address its shortcomings pertaining to mandated certification, the ATFD must assume the responsibilities

[12] 1.2 (1) of NFPA 2500: Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services.

associated with testing and certification to meet provincial guidelines from the Accreditation, Standards, and Evaluation Section of the OFM.

The" vehicle extrication" wording from the Township of Adjala-Tosorontio By-Law 2023-42 should be updated to reflect wording from Table 1 of the Ontario Regulation 343/22, made under the FPPA, 1997. The auto extrication functions should be clearly stated in the By-law 2023-42 to avoid unnecessary conflicts of interest given the adoption of the Firefighter Certification regulation 343/22.

Recruit Training

The ATFD is well positioned with respect to Recruit Training, where training is outsourced to a reputable provider.

A review of the ATFD Recruit program indicated that it is successful, leading to positive experiences for recruits. EMG noted that the onboarding allowed for a stress-free and welcoming experience, easing the new recruits' transition to an unfamiliar environment, and facilitating the development of a relationship with cohorts.

Fire Suppression Training

Firefighting training adheres to NFPA 1001: *Standard for Fire Fighter Professional Qualifications*. The training curriculum follows the IFSTA *Essentials of Firefighting, 7th Edition* manual. This is one of the authoritative training manuals concerning firefighting training. The ATFD is responsible for creating the annual training schedule for skill maintenance. Using the IFSTA training materials, the knowledge and skill requisites are then delivered in-house at each fire station.

EMG learned that the ATFD has access to a Learning Management System (LMS) called "FLMS" provided by Stillwaters, a reputable online training tool for their fire suppression maintenance training program. However, it appears that the LMS is not used as intended. This is cause for concern given the effectiveness and efficiency of the LMS vis-à-vis productivity and recordkeeping capabilities. The utilization of a central LMS would also go a long way toward reducing or eliminating the current silo effect negatively impacting the ATFD.

The current suppression training is different between Fire Station 1 and Fire Station 2. Both stations have individualized lesson plans, and the subject matter taught each week differs. Joint training sessions are limited to Live Fire Training and Water Management Training.

Further, EMG noted that not all ATFD captains responsible for delivery of the training are certified to NFPA 1041: *Standard for Fire and Emergency Services Instructor Professional Qualifications*. Instructor qualification benefits include improved teaching expertise and

experience, improved delivery of program objectives, and better-trained personnel, as well as benefiting the training resource capacity of the ATFD.

EMG recommends that fire suppression training be streamlined to ensure standardization and uniformity of training for all firefighters. This can be accomplished through universal lesson plans and an annual training schedule with a single subject matter trained at both stations and through joint training exercises. The ATFD should implement the utilization of the LMS called FLMS for both fire stations.

Fire Prevention and Fire and Life Safety Education Training

All related prevention and public education training is provided externally, and the ATFD's role involves some coordination of external training and record management.

With respect to Public and Life Safety Education, the Township of Adjala-Tosorontio By-law 2023-42 addresses the importance of PFLSE through the identification of several programs. However, training is dependent on the availability of relevant external training. The ATFD uniform personnel delivers the PFLSE programs. However, few members of the ATFD are certified to the NFPA 1035: *Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist and Youth Firesetter Program Manager Professional Qualifications*. Some of the ATFD staff are certified to Level 1. Consideration should be given to developing internal capacity to train all staff to NFPA 1035: *Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist, and Youth Firesetter Program Manager Professional Qualifications*.

EMG applauds that public fire and life safety education training aligns with NFPA 1035. However, given the importance of the first two lines of defence, EMG recommends that ATFD train all its firefighters to Fire and Life Safety Educator Level 1 and that the ATFD captains also be trained as Public Information Officer Level, under the NFPA 1035.

With the adoption of O. Reg. 343/22, made under the *FPPA*, 1997, it will become incumbent on the ATFD to take a more active role in testing and certification to NFPA 1035. This will require developing and maintaining a robust curriculum to ensure a successful certification program for ATFD. It is becoming essential for the ATFD to evaluate the impact of O. Reg. 343/22 on the ATFD's training program and current training staff's workload.

For Fire prevention including fire inspection, EMG noted that the ATFD has a volunteer member who is assigned to the FPO position. However, the training requirements to the NFPA 1031: *Standard for Professional Qualifications for Fire Inspector and Plan Examiner* are not monitored or coordinated by the ADCs. EMG was informed of a lack of interest from the current ATFD

personnel to volunteer as a FPO. EMG believes that the ATFD is not meeting its prevention core services mandate, made under By-Law 2023-42.

EMG recommends that at least the district chief at each station be certified to NFPA 1031 Fire Inspector Level 1. Ideally, both district chiefs and all captains should be trained and certified to NFPA 1031 Fire Inspector Level 1 to meet the goals set in the Township's By-Law 2023-42 pertaining to fire prevention Core Services.

Training development and delivery are like public fire and life safety education concerning external training. EMG recommends that the ATFD Fire Prevention policy addresses training requirements and that the training requirements for Fire Prevention, which should be set at Level 2 of NFPA 1031: *Standard for Professional Qualifications for Fire Inspector and Plan* Examiner, be added to the program development and delivery of the ATFD.

At the very least, ATFD Training should vet the curriculum and arrange testing and certification to NFPA 1031 and 1035 for the departmental FPO and the PFLSE.

Fire Investigation Training

Like other specialty functions within the ATFD, Fire Investigation training is outsourced and relies on external training providers. On a positive note, the current training aligns with the job performance requirements of NFPA 1033: *Standard for Fire Investigator Professional Qualifications*. EMG noted that there is no specific training to NFPA 921: *Guide for Fire and Explosion Investigations*. Qualification for NFPA 921 is essential because it is the companion guide to the NFPA 1033.

Although O. Reg. 343/22 sets the fire investigator certification requirements to NFPA 1033, EMG recommends that ATFD's dedicated fire investigators be concurrently certified to NFPA 1033 and NFPA 921. In addition, EMG recommends that fire investigation operations and training adhere to NFPA 1231: *Standard for Fire Investigation Units* and that the ATFD be responsible for monitoring, record keeping, testing, and certification to the said NFPA standards.

Medical and Medical Assist Training Programs

Core services under the emergency response of the Township's By-Law 2023-42 identify the medical response functions of the ATFD. EMG noted that the ATFD medical assist services are maintained as per the local tiered response agreement with EMS. The local paramedics provide medical response training (Simcoe Quality Care Program) under the tutelage of the Simcoe County EMS Director. ATFD firefighters are recertified yearly.

ATFD Training Programs

The ATFD training programs currently involve formal and informal training adhering to NFPA Professional Qualifications standards. Consideration should be given to all training curricula to align with specific knowledge and skill requisites of the specific NFPA Professional Qualifications standard relevant to the ATFD-identified level of services. The recommended qualifications are summarized in the following table.

TABLE #3: LEVEL OF SERVICE RECOMMENDED QUALIFICATIONS

Level of Service	NFPA Pro-Quals Standard	Qualification Level
Firefighting	NFPA 1001	**Levels 1 and 2** & O. Reg. 343/22
Technical Rescue	NFPA 1006 and NFPA 2500	**Operations** Level & O. Reg. 343/22
HAZMAT	NFPA 1072	**Operations Level Responder** & O. Reg. 343/22
Fire Inspection	NFPA 1031	**Level 2** & O. Reg. 343/22
Public and Life Safety Education	NFPA 1035	**Level 1, Level 2, and PIO** & O. Reg. 343/22
Fire Investigation	NFPA 1033 and NFPA 921, as well as NFPA 1321	O. Reg. 343/22
Training	NFPA 1041	**Level 1 and Level 2** & O. Reg. 343/22
Safety Officer	NFPA 1521	O. Reg. 343/22
Officer	NFPA 1021	**Level 1 for Captains; Level 2 for District Chiefs; Level 3 or 4 for the Fire Chief and Deputy Fire Chief** & O. Reg. 343/22
Pump Operator	NFPA 1002	O. Reg. 343/22

3.5.5 Training Documents and Training Records

ATFD training reports and records do not align with NFPA 1401: *Recommended Practice for Fire Service Training Reports and Records* and Part 7 of the Section 21 Guidance Notes. The two stations have different means of keeping records. Although ATFD has a LMS with recordkeeping capabilities, it is not used to record training. Most training records are tracked manually. Manually recorded training records are then forwarded to the ATFD Administrative Assistant, who enters the information in the fire department RMS called FIREHOUSE.

Furthermore, during the review of the ATFD training functions, it was learned that the ADCs who are responsible for training at their respective fire station, do not have access to FIREHOUSE to monitor and track training. In addition to the duplication of recordkeeping efforts, there are also productivity deficiencies with the current record management, where only the ATFD Fire Chief and Administrative Assistant have search capability for the fire department management system. The recordkeeping practices contribute further to the current silo effect faced by the ATFD.

EMG recommends that ATFD expand its investment in its LMS - FLMS to effectively capture all training records and that customization be programmed to ensure a smooth data transfer from the LMS to the ATFD Administrative database (currently FIREHOUSE).

3.6 Promotional Process

NFPA 1021: *Standard for Fire Officer Professional Qualifications* defines promotion as: "*the advancement of a member from one rank to a higher rank by a method such as election, appointment, merit, or examination*."[13].

EMG interviews with staff and management highlighted the importance given to the promotional process from the point of view of management seeking the best person to promote to supervisory rank and personnel in the context of their career advancement[14].

A solid job description is a first step and an essential component of a successful promotion process. At the very least, the job description should include the necessary skills, the necessary

[13] NFPA 1021: Standard for Fire Officer Professional Qualifications, 2020 Edition, p.1021-8

[14] Jack Abraham. "What is the Best Fire Service Promotional Process?" FireRescue1. Accessed March 11, 2024. https://www.firerescue1.com/fire-products/fire-department-management/articles/what-is-the-best-fire-service-promotion-process-QtgE4bROggmDxwNB/

work performance requisites, the necessary qualifications, and who is eligible[15]. EMG suggests that ATFD review, update, and, where necessary, add a job description for all positions within the Fire Department.

Another vital component of a robust promotional process is an SOP. During this exercise, EMG learned that the ATFD has an SOG for firefighter increments. The current probationary period is set at 12 months. However, management cautioned that the ATFD did not have an SOG prescribing training goals and achievement benchmarks to ensure successful completion of the probationary period.

Furthermore, the increment process and procedures from 4th class to 1st class are not prescribed in a dedicated SOG.

Similar deficiencies are found with respect to the prescription of processes and procedures for officer promotion.

EMG recommends that the ATFD invest in developing a promotional process for firefighter increments, Captain, District Chief, and Assistant Chief positions.

There are several types of promotion processes, including by appointment, seniority, résumés, performance evaluations, interviews, assessment centers, and written tests. The best practice in the human resources business is combining one or more promotion processes. In addition, the design of the promotion process should be based on subjective and objective decision-making approaches for best results in selecting candidates for promotion.

For instance, pre-screening résumés against job functions from the job description with a weighted rubric is an excellent example of a subjective and objective decision-making approach. The weighted rubric is measurable and allows for the ranking of scores by candidates. In contrast, the weight attributed to each function is the opinion of management or an advisory committee of subject-matter experts. The ATFD should utilize a combination of promotional process systems to evaluate and select successful candidates.

Furthermore, the ATFD should develop a robust process involving training preparation for personnel wishing to be promoted and an evaluation methodology consisting of a written exam, a practical exam, and an oral examination in front of a senior management team for any

[15] Jack Abraham. "What is the Best Fire Service Promotional Process?" FireRescue1. Accessed March 11, 2024. https://www.firerescue1.com/fire-products/fire-department-management/articles/what-is-the-best-fire-service-promotion-process-QtgE4bROggmDxwNB/

promotion level. In the event that ATFD creates a Training Division and hires a full-time Training Officer, a promotional process should also be devised for that position.

EMG recommends that ATFD develop detailed SOPs for each rank on the promotional process system, including captain, ADC, and district chief.

With respect to the firefighter increment promotional process, EMG suggests that the process be based on a three-year period for completion and that an SOP identifies clear and concise objectives and goals for each increment. The SOP should also include detailed (step-by-step) procedures.

3.7 Suppression Overview

The ATFD is a composite fire department consisting of volunteer firefighters, a full-time Fire Chief, a full-time Administrative Assistant, and soon to be a full-time Deputy Fire Chief.

For the purposes of this review, the NFPA 1720 standard for volunteer departments is applicable. Even though NFPA Standards are not mandatory, they are recognized industry best practices and ones that ATFD should strive to achieve. Even though ATFD is considered a volunteer department, the members receive a stipend for the time spent doing tasks for ATFD. Fire departments frequently refer to their firefighters as paid on-call (POC) rather than volunteers.

When volunteer/POC departments receive a call for service, firefighters are often not in the station when the call comes in. They must drive to their assigned fire station, get into their bunker gear, board the apparatus, and then respond; this timeline is the 'turnout' time. The NFPA Standard does not have a turnout time expectation due to the varied distances the firefighters must travel to arrive at the fire station. EMG uses four minutes as the benchmark turnout time.

3.7.1 National Fire Protection Association 1720

To provide the fire department with a more precise focus on the ultimate goals for emergency response criteria, the NFPA suggests that response times be a primary performance measure. NFPA 1720 applies to volunteer fire services that typically do not have personnel on duty in stations and instead respond to page-outs from home, work, or elsewhere.

In general, 1720 provides the following benchmarks:

- Urban Zones with >1000 people/sq. mi. (2.6 km²) calls for 15 staff to assemble an attack in 9 minutes, 90% of the time.

- Suburban Zones with 500-1000 people/sq. mi. (2.6 km²) calls for ten staff to assemble an attack in 10 minutes, 80% of the time.
- Rural Zones with <500 people/sq. mi. (2.6 km²) calls for six staff to assemble an attack in 14 minutes, 80% of the time.
- Remote Zones with a travel distance =8 mi. (12.87 km) calls for four staff, once on scene, to assemble an attack in 2 minutes, 90% of the time.
- Special Risks are to be determined by the fire department with a performance objective of 90%.

3.7.2 Response

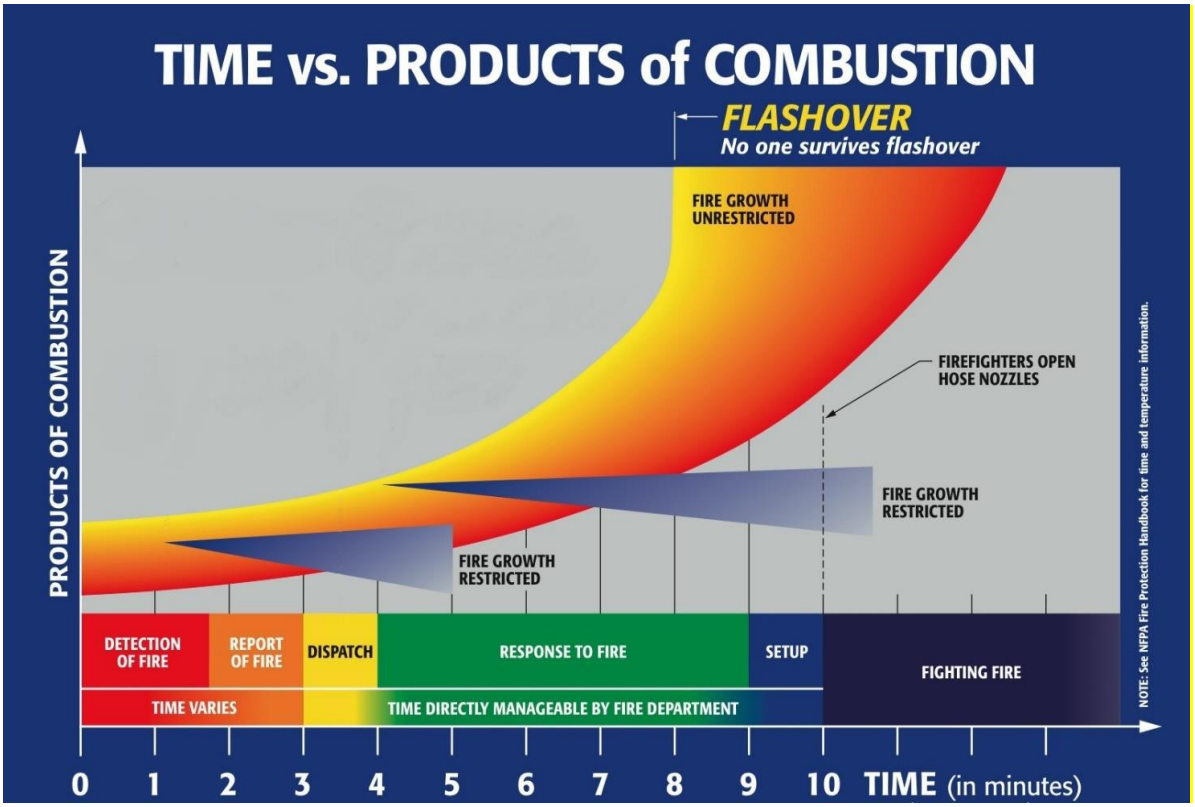
When considering a community's response times and needs, the fire response curve (FIGURE #8) gives the reader a general understanding of how fire can grow within a furnished residential structure over a short period. Depending on many factors, the growth rate can be affected in several ways, which can increase or suppress the burn rate through fire control measures within the structure.

When we review the response time of a fire department, it is a function of various factors including, but not limited to:

- The distance between the fire station and the location of the incident.
- The layout of the community, including topography, road network, and size.
- Impediments that affect responses including weather, construction, traffic jams, time of day, and lack of direct routes (rural roads).
- Notification time vs firefighter availability.
- Assembly time - when the number of firefighters meets the prescribed requirement at the fire station and the incident scene.
    - Assembly time includes dispatch time, turnout time to the fire station, and response to the scene.
    - Like response times, assembly time can vary significantly due to weather and road conditions, along with the time of day, as many firefighters are at their full-time jobs and cannot respond to calls during work hours.
    - The location and activity the firefighter was involved in at the time of the call.

As illustrated in the following fire propagation diagram, immediately initiating fire suppression activities is critical. ATFD responds to more than just fires; for example, motor vehicle collisions can create a medical or fire emergency that needs immediate response. Thus, it is imperative to be as efficient and effective as possible in responding to calls for assistance.

FIGURE #8 - FIRE RESPONSE/PROPAGATION CURVE



- Detection of Fire – This is when the occupant discovers a fire. The fire may be in a very early stage or could have been burning for quite some time before being detected.
- Report of Fire – This is when someone has identified the fire and calls 9-1-1 for help.
- Dispatch – the dispatcher's time to receive the information and dispatch the appropriate resources.
- Response to the Fire – response time is a combination of the following:
    - Turnout Time – how long it takes the career firefighters to get to the fire truck and respond or how long it takes the volunteer firefighters to get to the fire station to respond on the fire truck.
    - Drive Time - is when the crew advises dispatch that they are responding until they report on the scene.

- Setup Time – the time it takes for the fire crews to get ready to fight the fire.
- Fighting The Fire – actual time to extinguish the fire on scene.

The overall goal of any fire department is to arrive at the fire scene or incident as quickly and effectively as possible. If a fire truck comes on the scene in eight minutes or less, with a recommended crew of four or more firefighters, there is an increased opportunity to contain the fire by reducing further spread to the rest of the structure. Alternatively, if the first fire attack team arrives with fewer than four firefighters on board, it is limited to what operations it can successfully attempt and do so safely. No matter the decision made by the incident commander, they must be made with the safety of the firefighters their paramount concern.

Based on studies and evaluations conducted by the National Institute of Standards and Technology (NIST) and the NFPA, no interior attack will be made by the firefighters until sufficient personnel arrive. At least three firefighters and one officer must arrive to make up the initial fire suppression team. This team of four can effectively assess the scene, secure a water source (e.g., fire hydrant), ensure the fire truck is ready to receive the water and get the fire pump in gear, and unload and advance the fire hose in preparation for entry into the structure. A team of four also allows adherence to the recommended "two-in, two-out" rule, referring to two firefighters inside the structure with two outside ready to go in as backup.

The two in/two out rule for firefighters is based on the more general requirement that workers working in hazardous areas must operate according to the "buddy system." This rule requires each worker to work within sight and sound of another in case they need assistance. The rule does not require the "two-in/two-out" provision if the fire is still developing and does not prohibit firefighters from fighting the fire outside before sufficient personnel arrive. It also does not prohibit firefighters from entering a burning structure to perform search and rescue operations when there is a reasonable belief that victims may be inside. Only when firefighters are engaged in the interior attack of interior structural firefighting does the "two-in/two-out" requirement apply. The incident commander is responsible for judging whether a fire is an interior structural fire and how crews will attack it. As stated in NFPA 1500 (2021), *Standard on Fire Department Occupational Health, Safety, and Wellness Program*:

> *Article 8.8.2 – In the initial stages of an incident where only one crew is operating in the hazardous area at a working structural fire, a minimum of four individuals shall be required, consisting of two members working as a crew in the hazardous area and two standby members present outside this hazardous area available for assistance or rescue at emergency operations where entry into the danger area is required.*

The Fire Chief must ensure each station has a complement, allowing an initial response to incidents. Due to the lack of firefighter availability, ATFD, like many other volunteer fire

services, has challenges massing enough firefighters. As such, at times, it must dispatch both fire stations to ensure adequate staffing.

3.7.3 Response Data

Turnout times and travel times are not necessarily recognized by NFPA 1720, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Department* as they are in NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Department*.

The Authority Having Jurisdiction (AHJ) may establish a response time to meet the community's needs. NFPA 1720 has set a response time chart, as seen in TABLE#5.

TABLE #4: NFPA 1720 STAFFING AND RESPONSE TIME

Demand Zone	Demographics	Minimum Staffing	Response Time	Meets Objective
Urban Area	>1,000 people/m² (2.6 km²)	15	9	90%
Suburban Area	500-1,000 people/mi² (2.6 km²)	10	10	80%
Rural Area	**<500 people/mi² (2.6 km²)**	**6**	**14**	**80%**
Remote Area	Travel Distance ≥ 8 mi (12.87 km)	4	Directly dependent on travel distance	90%
Special Risks	Determined by AHJ.	Determined by AHJ based on risk.	Determined by AHJ.	90%

The Standard states that rural areas, such as the Township of Adjala-Tosorontio, with a population of <500 people /mi² (2.6 km²), should strive to have six firefighters on the scene of a residential structure fire within 14 minutes (80th percentile). The Township's population density

is 29.6 / km² (76.6 / sq mi) based on 2021 Statistics Canada Data.[16] When reviewing the density of the sole urban area, and due to the limited land mass and few residents, the ATFD falls into the rural response category for the entire township.

TABLE #5: POPULATION DENSITIES IN THE TOWNSHIP OF ADJALA-TOSORONTIO

Township of Adjala-Tosorontio[17]		
Area	**Population**	**Population Density**
Township of Adjala-Tosorontio	10,989	29.6 /km²
Urban Areas		
Everett (Land area 1.58 km²)	1,570 (2016 – 1,670)	992.0 /km²

The following series of charts identify a comparison of response types and the response breakdown among the two fire stations.

[16] Profile table, Census Profile, 2021 Census of Population - Adjala-Tosorontio, Township (TP) [Census subdivision], Ontario (statcan.gc.ca), Accessed October 30, 2023, https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=Adjala%2DTosorontio&DGUIDlist=2021A00053543003&GENDERlist=1,2,3&STATISTIClist=1,4&HEADERlist=0

[17] Profile table, Census Profile, 2021 Census of Population - Adjala-Tosorontio, Township (TP) [Census subdivision], Ontario (statcan.gc.ca), Accessed October 30, 2023, https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=Adjala%2DTosorontio&DGUIDlist=2021A00053543003&GENDERlist=1,2,3&STATISTIClist=1,4&HEADERlist=0

FIGURE #9 - 2022 RESPONSE TIMES

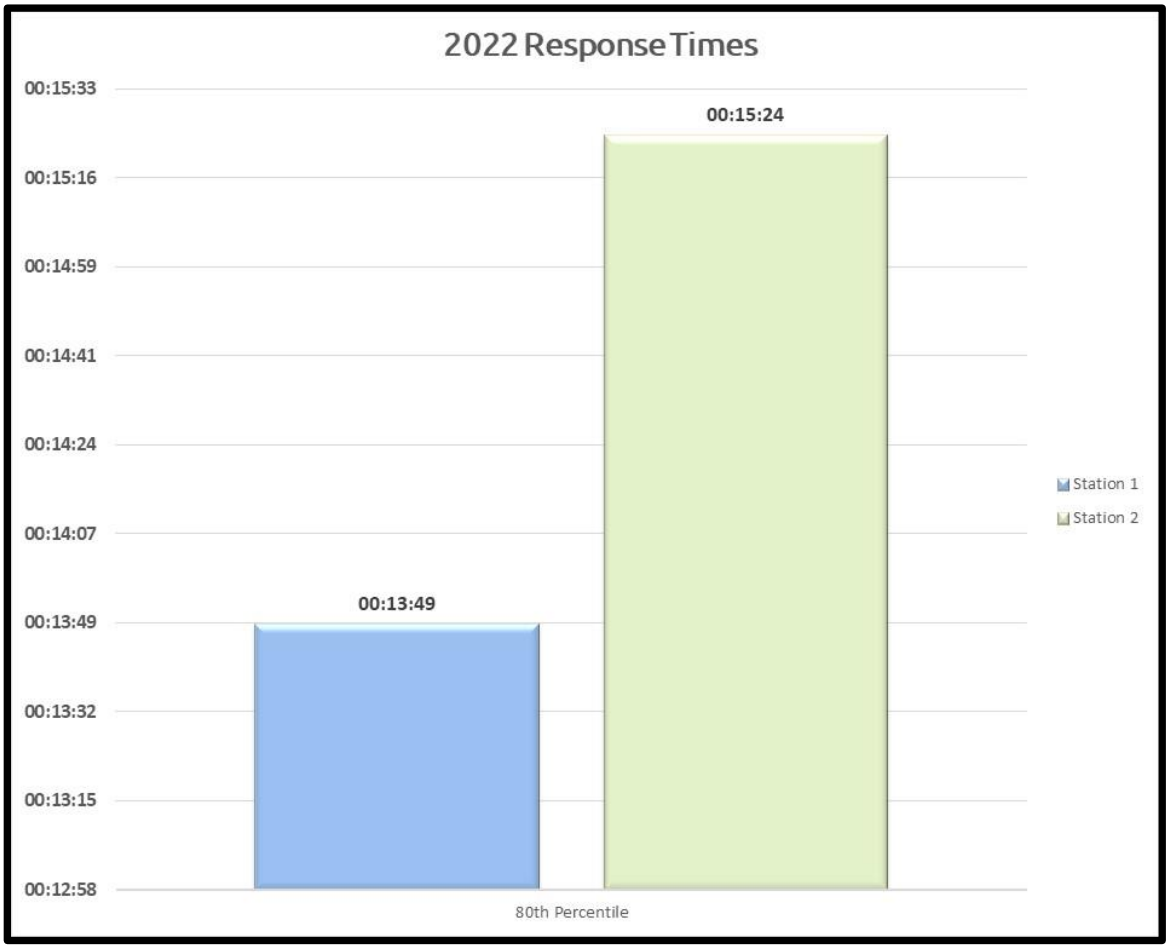
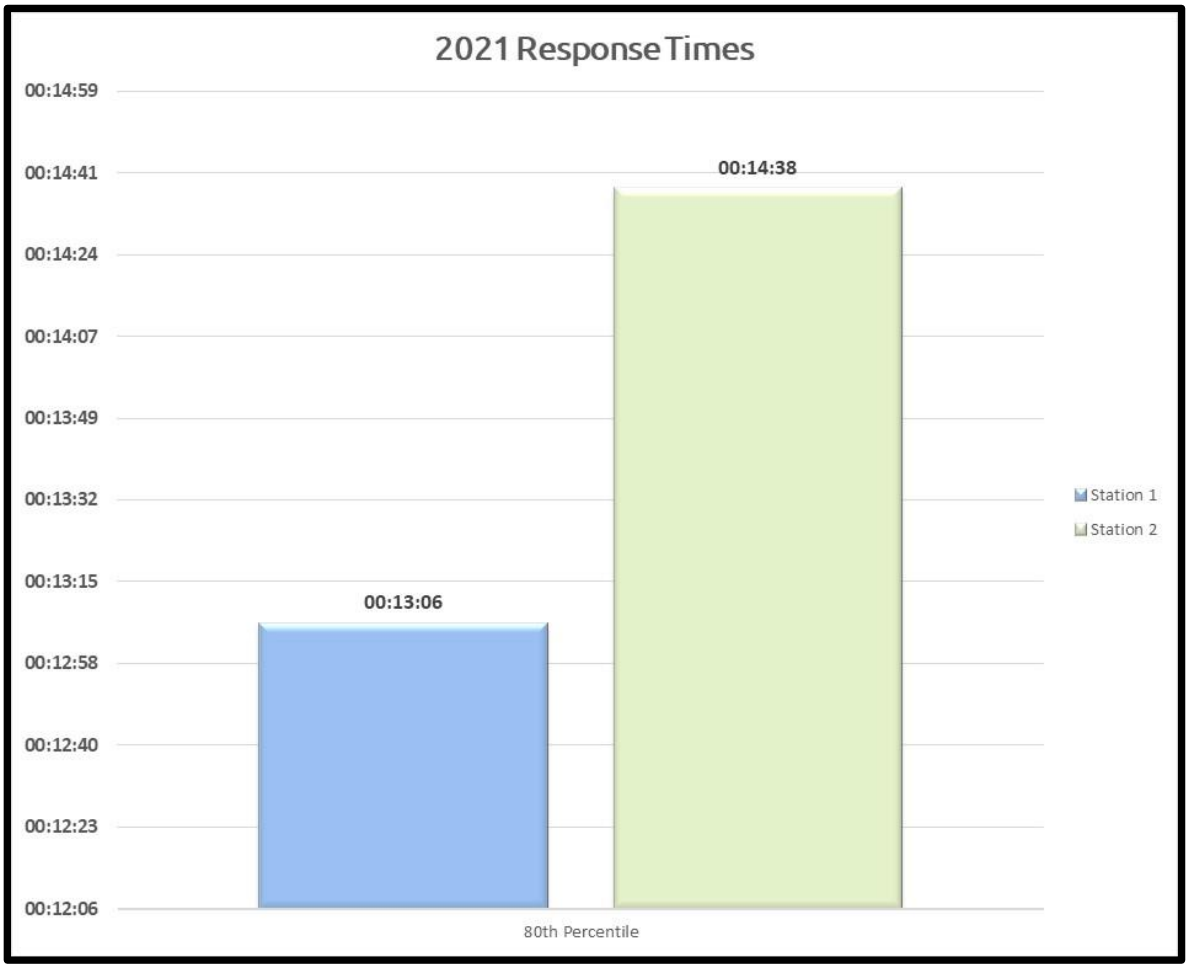


FIGURE #10 - 2021 RESPONSE TIMES



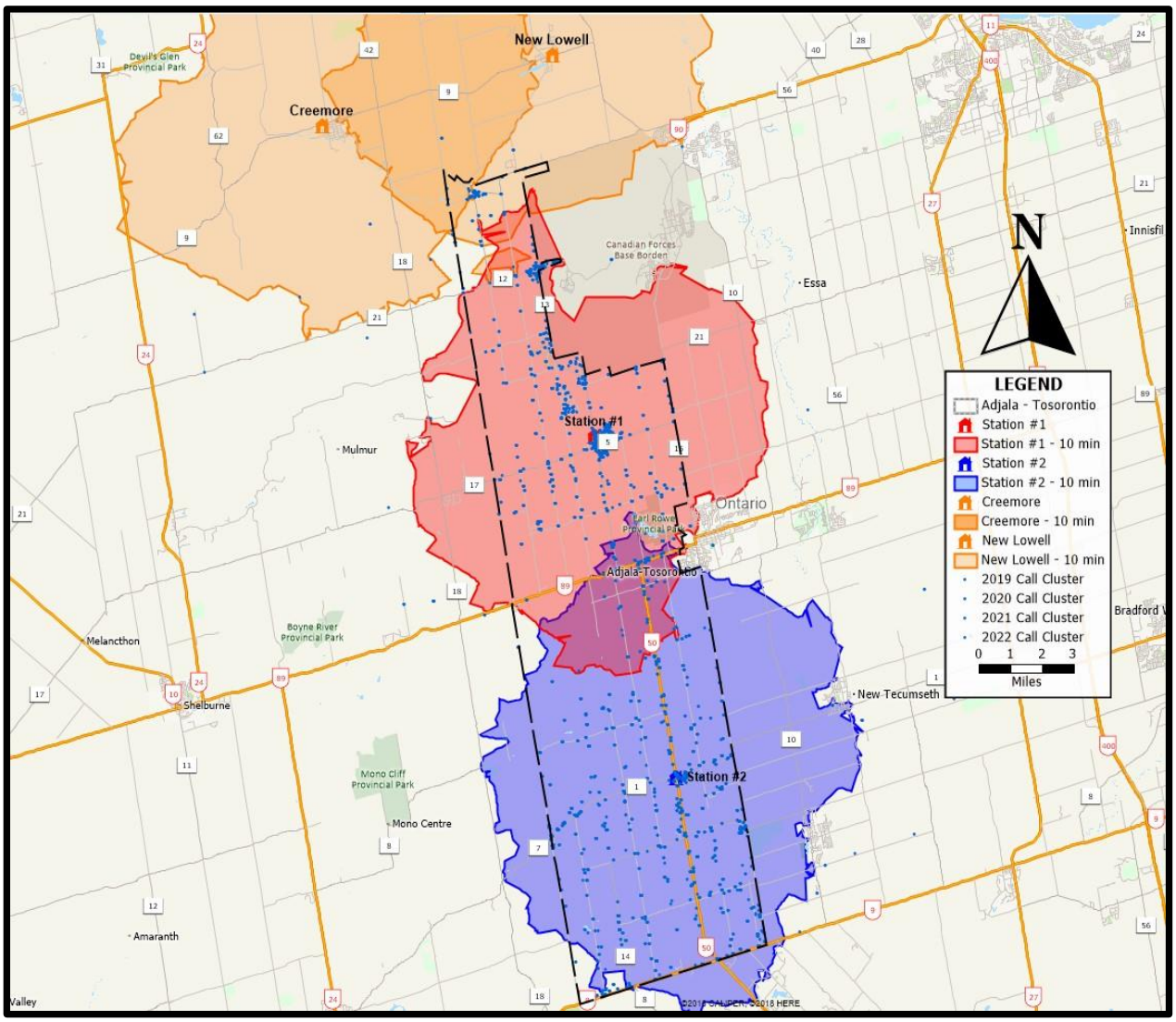
In 2021, the 80th percentile Response Time was 00:13:06 for Station 1 and 00:14:38 for Station 2.

Note: *In monitoring time measurements, the 80th percentile criterion is the recommended practice that NFPA and CFAI endorse. This data is more accurate since it evaluates the times based on 80% of the calls instead of averaging the times at the 50th percentile. For example:*

- *8 out of 10 times, the fire department arrives on the scene in 10 minutes or less, which means that only 20 percent of the time they are above that 10-minute mark.*
- *As opposed to 5 out of 10 times (average), the fire department arrives on the scene in 10 minutes or less, which means that 50% of the time, they are above the 10-minute mark.*

The travel time grids are calculated using the GIS software Caliper Maptitude, which uses the road network with the posted speed limits, factoring in the direction of travel, traffic lights, and stop lights. While the posted speed limit is used, understand that, at times, fire apparatus responding to calls may exceed the speed limit if it is safe to do so, thus reducing the response time. Correspondingly, due to weather conditions, construction, and traffic congestion, there will be times that the fire apparatus will be travelling at speeds lower than the posted speed limit (even using emergency lights and sirens). Therefore, the posted limit is a reasonable calculation in determining travel distance. The following map indicates the areas where the crews may arrive within a 10-minute drive time.

FIGURE #11 - 10-MINUTE TRAVEL TIME MAP INCLUDING CFES'S STATIONS 3 AND 4

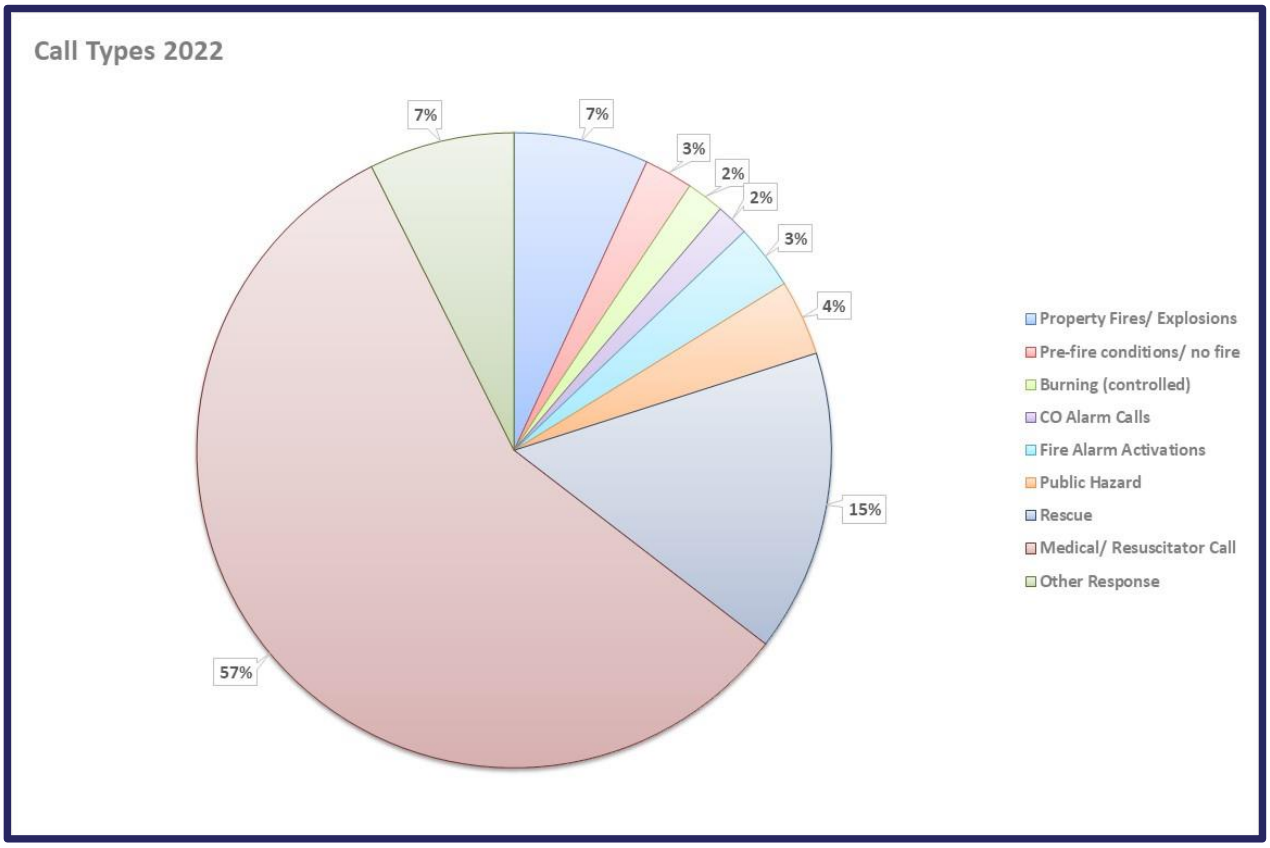


The response zone map identifies the coverage based on the physical locations of the stations relative to the NFPA-recommended response times. As illustrated, except for some areas, the entire Township is within a 10-minute drive time of the two fire stations.

The following charts (through the supplied data) help identify the types of calls creating the bulk of response demands and which station(s) get called upon the most for these responses.

FIGURE #12 illustrates the types of calls responded to by ATFD in 2022 and FIGURE #11 for 2021.

FIGURE #12 - 2022 CALL TYPES



As can be seen in Figure #12 2022, the top three types of calls that ATFD responds to are:

1. Medical/resuscitator accounts for 57% of the responses
2. Rescues account for 15% of the responses
3. Other responses accounted for 7% of the calls for service.

These top three types of calls were consistent over the past four years, considering the adverse effects of the COVID-19 pandemic.

FIGURE #13 - 2021 CALL TYPES

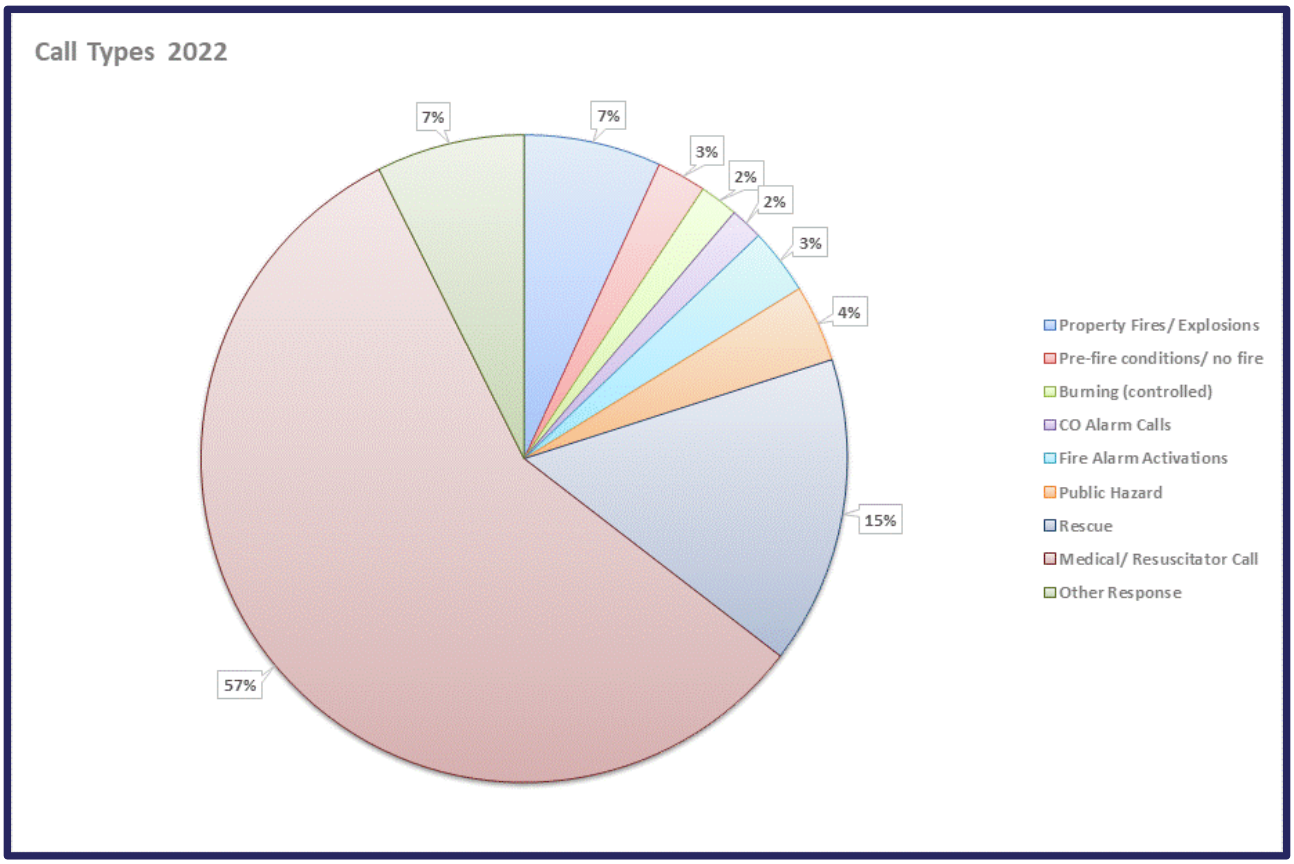


Figure #13 breaks the call types down by the station, most call types are medicals and rescues.

FIGURE #14 - 2022 CALL TYPES BY STATION

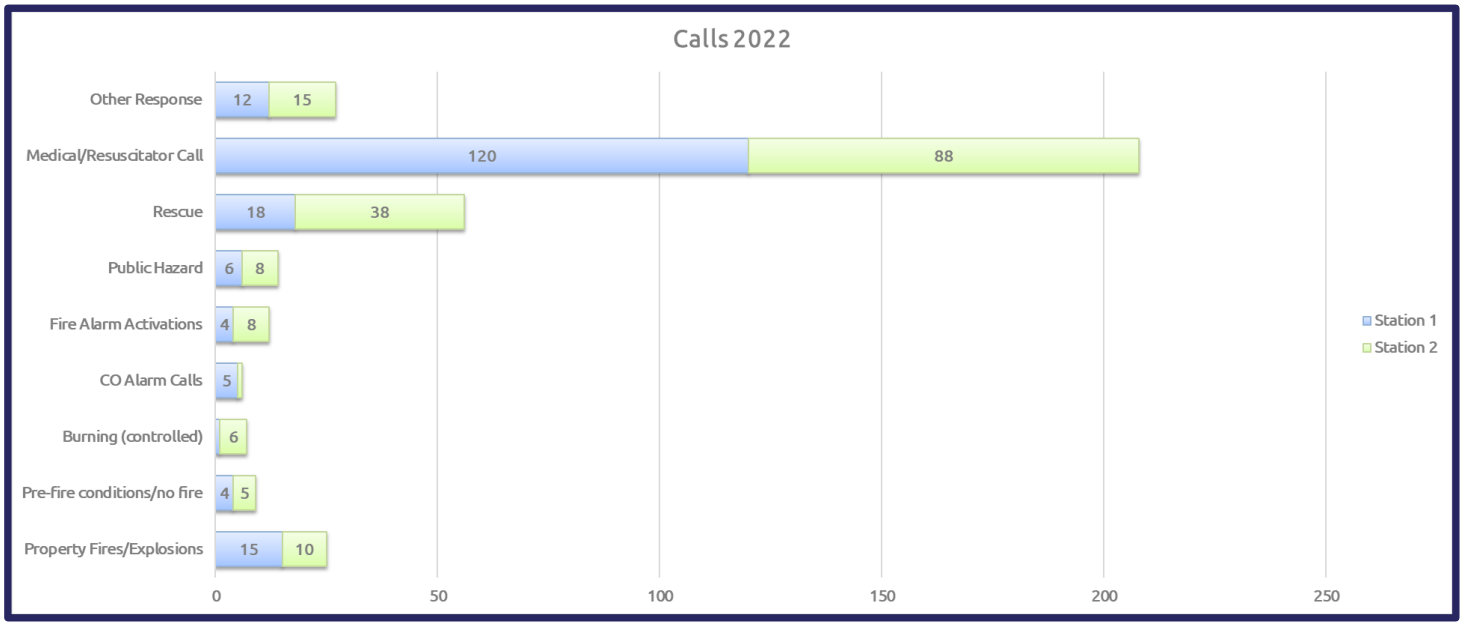


FIGURE #15 - 2021 CALL TYPES BY STATION

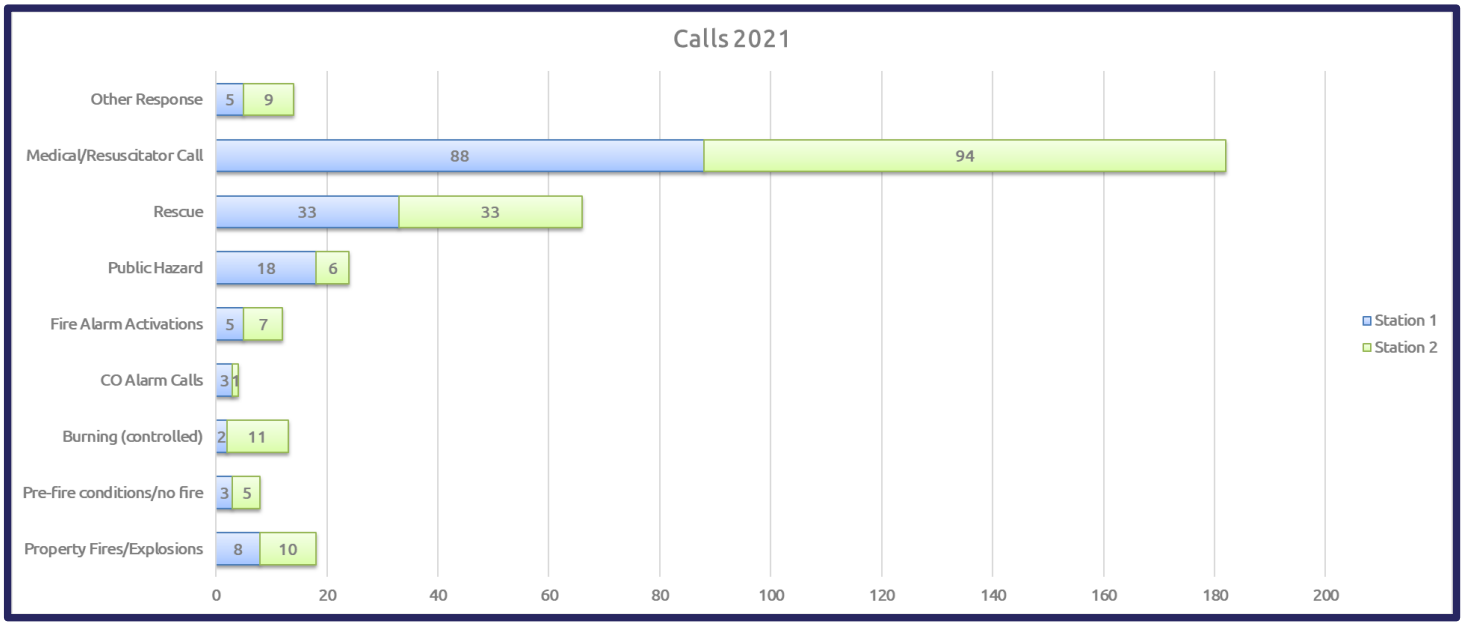


FIGURE #16 - 2022 TOTAL CALLS PER STATION

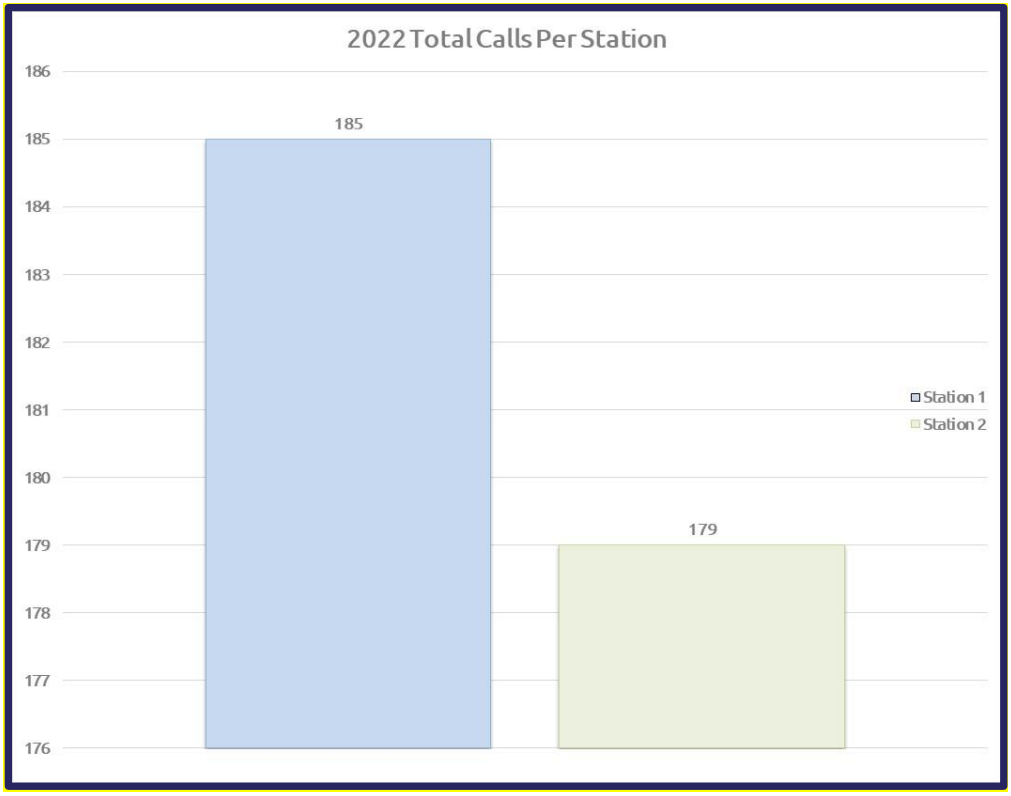
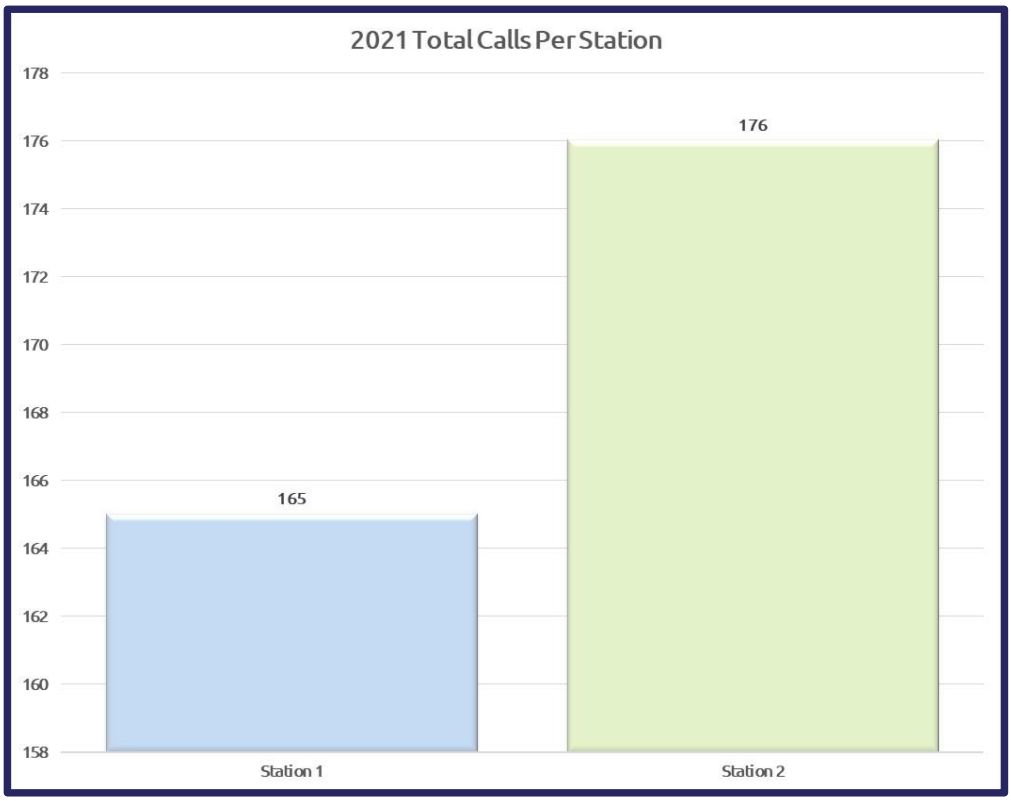
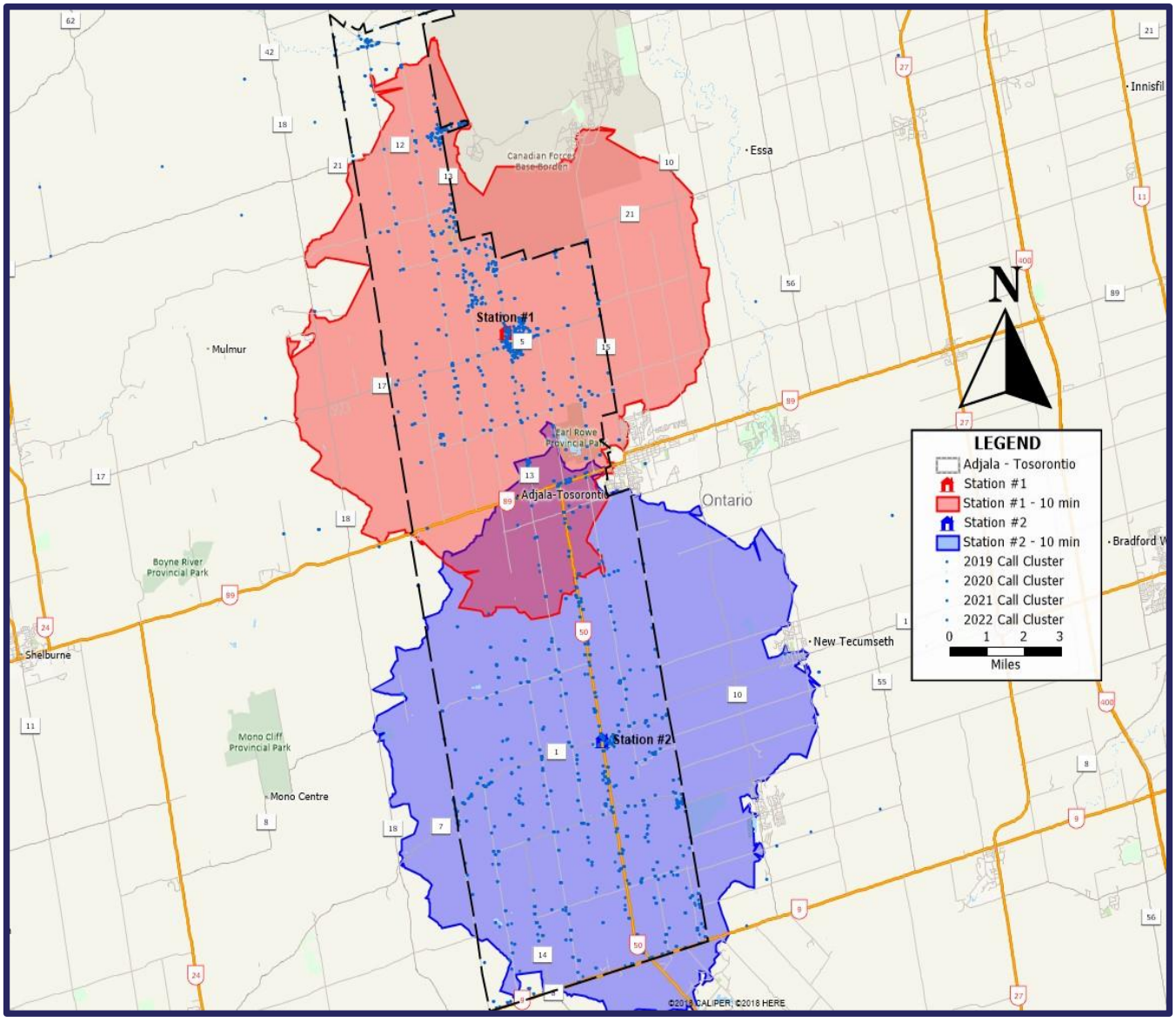


FIGURE #17 - 2021 TOTAL CALLS PER STATION



Another valuable tool in measuring fire service response is pinpointing where most emergency responses occur. This clustering of responses will help to identify where the majority of calls are happening, which will indicate if the present fire station locations are located adequately for optimum service or if there were a shift in call locations that would suggest the possible need to relocate a fire station.

FIGURE #18 - 2019 TO 2022 CALL CLUSTER MAP



Upon reviewing the call cluster, EMG noticed most calls are evenly distributed, with a heavier concentration in the Everett, Lisle, and Tioga areas.

3.7.4 Tiered Medical Calls

The Township of Adjala-Tosorontio entered into a Medical Response Agreement with the County of Simcoe, with the most recent document dating back to 2006. Fortunately for the Township, Simcoe County Paramedic Services (SCPS) has bases in Alliston and Angus and a post in Everett at the fire station—other bases and posts serving the Township's south end from Beeton or Tottenham.

The agreement states that the departments will respond to all types of medical emergencies based on whether they react under Level "A" or "B." Those calls deemed most likely to require an immediate critical intervention to save a life are a Level B response. Other calls where agencies wish to provide a higher level of service are categorized as Level A. Medical aid response will be activated when the call information indicates that the patient meets specified criteria.

The ATFD firefighters have been training in basic life support (BLS), which includes defibrillation, through the SCPS Quality Care Program since 2018 under the watchful eye of a base hospital doctor from Sunnybrook Hospital in Toronto. The firefighters receive six hours of training annually by participating in this program. This partnership between the two allied agencies works well for fire departments and their medical response program. In 2006, the *Chase McEachern Act* came into law, which requires all public buildings to have a public assess defibrillator (PAD) available. If not already, the Township needs to be a member municipality of the SCPS Public PAD Program. It installs defibrillators in public buildings and provides training to the municipality's staff.

There are provisions within the agreement for the equipment exchange, provided it is compatible with items used by SCPS to offset the cost of medical supplies borne by the Township. These items include:

- Defibrillator pads
- Backboards, straps, splints, lifting carrying devices
- Cervical collars
- Oxygen masks
- Oral airways
- Bag valve masks

The Township is responsible for replacing disposable first aid supplies such as bandages and personal protective equipment (PPE).

Some jurisdictions permit their firefighters to administer naloxone (Narcan) and epinephrine (Epi-Pens). ATFD has not taken advantage of this opportunity to enhance service levels. Members would receive the necessary medical training as part of the Quality Care Program. Some fire services have reviewed the value of firefighters providing acetylsalicylic acid to those with a cardiac emergency and glucose gel to individuals in a diabetic event. ATFD is exploring the benefits of firefighters

administering medications in the future. EMG recommends that ATFD take advantage of the SCPS's Quality Care Program and assess the value of beginning to administer naloxone and epinephrine.

The Province's Central Ambulance Communications Centres (CACC) are moving towards the Medical Priority Dispatch System, sometimes referred to as the Advanced Medical Priority Dispatch System. It is a unified system to dispatch appropriate aid to medical emergencies, including systematized caller interrogation and pre-arrival instructions. How this dispatch procedural change will impact the County of Simcoe fire services is unknown. It may result in an increase or decrease in call volume.

CACC – Georgian dispatches ambulances in Simcoe County and the York Region. Fortunately, the Ministry of Health and the OFM selected Georgian and BFESto trial a simultaneous notification system. Meanwhile, the Computer Aided Dispatch (CAD) program automatically downloads the tiered medical call to BFES's Dispatch Centre's CAD for them to call out the particular fire service. Often, the fire department receives the call before the paramedics are dispatched and usually arrives before them. This rapid notification has increased lives saved. In many instances, a timely intervention is vital to the survivability of an event.

The following table outlines the number of medical calls each station had between 2019 and 2022. As the COVID-19 pandemic affected many life factors in 2020, many fire services saw reduced call volumes, especially tiered medical. ATFD experienced a minor reduction in medical calls in 2020, but the volume increased in 2021 and 2022. Even though there was a dip in 2021, each year is consistent in that over 50% of the calls that ATFD attends are medical-related.

TABLE #6: TOTAL TIERED MEDICAL CALLS BY STATION

Station	2019	2020	2021	2022
Station 1 - Everett	102	85	88	120
Station 2 – Loretto	75	72	94	88
Total Medical*	177	157	182	208
Percentage of All Calls	56%	45%	53%	57%

***Note:** The total call data provided by the OFM may not align with the total calls by station.*

Persons suffering from smoke inhalation may have significant breathing impairment with contaminants entering the bloodstream, requiring immediate intervention to prevent irreversible damage. In 2016, fire services in the Essex-Windsor area agreed to participate in a unique agreement with the Windsor Regional Hospital.

The agreement outlines how Essex-Windsor Emergency Medical Services District Chiefs will carry cyanide antidote kits to treat smoke inhalation before transporting the patient to a local medical

facility for further treatment. The Fire Chiefs of the County of Simcoe and SCPS should enter into discussions on the value of the paramedic supervisor carrying onboard their vehicle cyanide antidote kits to be administered to victims of smoke inhalation to sooner reduce the effects. Like a cardiac event, timely intervention is critical to a successful recovery.

3.7.5 Technical Rescue and Hazardous Materials

Technical rescues are complex operations requiring specialized skill sets, equipment, and techniques. Technical rescue programs must adhere to NFPA 1006, *Standard for Technical Rescue Personnel Professional Qualifications.* Fire departments must weigh the frequency of this call type versus the cost and time commitment required to determine the need to enter such programs.

Fire services are being called upon to provide enhanced service, including technical rescues and HAZMAT responses. The Ontario Ministry of Labour, Section 21 committee for fire services develops guidance notes for fire services to follow as best practises and direction from the OFM in these responses. At a minimum, firefighters must train to the Awareness Level for technical rescues and HAZMAT response. The Awareness Level is an introduction to the rescue or HAZMAT incidents but does not allow for the mitigation of the incident.

ATFD trains its firefighters to the Awareness Level for all technical rescue responses per the Section 21 Guidance Notes and NFPA 1006. Due to the meagre number of technical rescues ATFD is called upon to attend, it would not be fiscally responsible for training and purchasing the required equipment to respond at the Operations Level. The Township has a mitigation strategy for technical rescues, including a Special Operations Memorandum of Understanding with the City of Barrie and its fire department. The following list identifies the level of response ATFD provides:

- Trench – Awareness
- Ice/Water – Shore-based awareness level
- Elevator – Awareness level
- Confined Space – Awareness level
- Low-Angle Rope – Awareness level
- High-Angle Rope – Awareness level
- HAZMAT – Awareness level

HAZMAT – ATFD is a member department of the HAZMAT response program established by the County of Simcoe for training equipment to meet the prerequisites of NFPA 1001, I & II, *Standard for Fire Fighter Professional Qualifications*. The NFPA 1001 Standard requires firefighters to train to NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*. During a HAZMAT emergency, ATFD has, through an MOU, the ability to request BFES attend to mitigate the incident.

The MOU with BFES allows for the utilization of trained staff above the level of awareness while reducing the ATFD's training needs.

3.7.6 Marine Emergencies

ATFD has a mitigation strategy for handling ice/water rescues, including the Special Operations MOU with the City of Barrie. Some fire services have taken the next step and purchased a marine vessel or implemented a swift water rescue program. The Township has primarily rivers and streams and no large bodies of water. No boat launching or slips are available or necessary in any of the waterways. Water levels are high and fast-flowing during heavy downpours and the spring thaw, especially in the Nottawasaga River. Individuals risk getting too close and slipping in the fast-flowing water, requiring rescue.

ATFD does not operate water vessels for mitigating water rescues, nor does it seem necessary, as no bodies of water are large enough to warrant such a purchase.

3.7.7 Pre-Incident Plans

ATFD does not have a pre-incident program in place. Once created, the development of plans may require enhancements to ensure the plans' completion is consistent and current. This is where the designation of a program manager would be of value to the Department.

Other considerations to having an active pre-incident plan program include:

- Ensure plans comply with NFPA 1620 – *Standard for Pre-Incident Planning*, are maintained in the RMS, and are accessible remotely.

- Ensure plans are available on the tablets in the apparatus; inquire with BFES if they could be made available via the CAD at BFES.
- Work with IT for consistent connectivity with the program that stores completed plans on the tablet.
- Promote the use of the plans to the officers as part of the Officer Training Program.
- Depending on the location that the plan is for, work collaboratively with the Community Emergency Management Coordinator (CEMC) in their completion, as they may also reference the document during an emergency.

3.8 Technologies in the Fire Service:

3.8.1 Tablets/Mobile Data Terminals

Many volunteer fire departments in Ontario are now installing tablets or mobile data terminals in their apparatus to access information from the municipality's server or internet provider, etc. The information available would include weather for HAZMAT incidents, access to HAZMAT reference material, pre-incident plans, fire prevention files, mapping, and connections to the CAD program.

There are other non-suppression uses for tablets in the field, such as completing fire inspections and delivering public education.

To ATFD's credit, the Council approved their acquisition within the 2023 budget. They are currently working with the Township's IT department for their purchase. Installing external vehicle antennas ensures constant connectivity with the Township's servers.

3.8.2 Drones

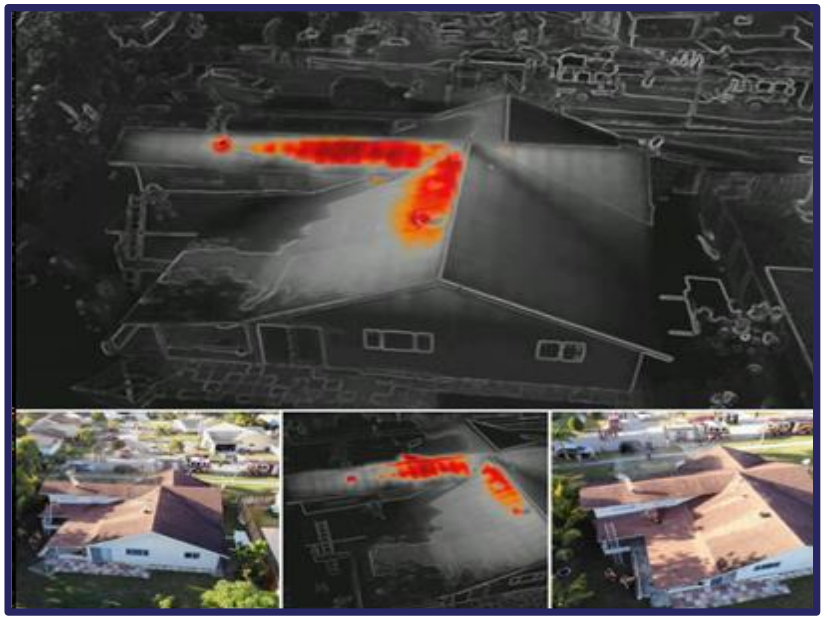
Many fire services in North America have embraced drones for emergency and non-emergency roles. Using drones in the fire service is a growing trend as a multi-purpose tool that can assist with large-scale assessments of fireground and HAZMAT incidents, enhance search and rescue functions, and aiding in pre-incident planning.

Reducing risk to firefighting personnel is a significant benefit of drone technology as well as the live view capabilities that provide invaluable information. They have proven beneficial for HAZMAT incidents, wildland fires, and large-scale emergencies. The Incident Commander can deploy a drone rapidly, which provides a live view of the incident.

Some drones can carry a payload such as warm clothing, first aid supplies, or nourishment. They have value when conducting a marine-related search and rescue operation (i.e., transporting a personal flotation device to the victim).

Drone pilots must follow the Canadian Aviation Regulations (CARs) Part IX-Remotely Piloted Aircraft Systems, which contain the rules for drones up to 25 kg. Advanced operations include flying in controlled airspace, flying over bystanders, or flying within 30 metres of bystanders.

A structure fire attended by the Lauderhill Fire Department in Florida (picture below) is an example of utilizing a thermal imaging-equipped drone to locate the hidden fire that was travelling in the attic space of this residence. [18]



Drone Thermal Imaging (Structure Fire Heat Source)

During emergencies in remote areas, the drone will provide prompt information so the Incident Commander can make decisions based on information transmitted back to the command post.

The value of drones in the fire service cannot be overstressed, especially during complex search operations like trying to locate small children lost in a corn field or individuals in forested areas.

While it would be very beneficial for the ATFD to own a drone, they must weigh its advantages and consider incurring the expense compared to entering into a response agreement with the Town of New Tecumseth or the Township of Clearview to deploy their drone to assist ATFD in an incident. When funds are restricted or may be allocated for more substantial purchases, a response agreement would be fiscally responsible on the part of ATFD.

[18] Lauderhill Fire Department (2021) Facebook post of February 10, 2021, on the use of their drone to locate a hidden fire in the attic space of the home.

3.8.3 HAAS Alert App

The app connects first responders to motorists, advising that emergency services are responding to an incident and to be prepared to slow down and move to the right. This app also notifies drivers of emergency vehicles responding/attending to calls of traffic delays so they may take alternate routes.[19]

Communications operators can track the location of emergency vehicles to ensure the closest units get dispatched to incidents.

While many municipalities have already signed onto it, including some in Simcoe County, it is not an immediate necessity for the Township of Adjala-Tosorontio, except when it becomes a county-wide initiative. It would be worthwhile for the Emergency Services in the County of Simcoe to establish a committee to review this opportunity. It has proven to reduce the risk of accidents while providing a safer work environment.

3.8.4 Thermal Imaging Cameras

Thermal Imaging Cameras (TICs) have been available for the fire service since the mid-1990s. This technology has saved lives, prevented firefighter injuries, and found hot spots in a structure during size-up procedures by the Incident Commander.

As technology advances, TICs are now available for situational awareness and decision-making and have critical roles in the fire service. A situational awareness TIC is a single-purpose unit designed to prevent firefighter disorientation. They are generally smaller in size (can be hand-held, facepiece mounted, or SCBA integrated). They usually have a lower resolution and a slower processor refresh rate speed. In contrast, a decision-making TIC is used for size up, search and rescue, and directing hose streams to suppress the fire. A decision-making TIC has higher resolution, a faster refresh rate, an 88.9

[19] HAAS Alert: Smarter Alerts, Safer Roads. Safety Cloud. Accessed October 1, 2023. https://www.haasalert.com/

mm (3.5") viewfinder or display screen, and a high dynamic range (from zero degrees Fahrenheit to 1200 degrees Fahrenheit or up to 650 degrees Celsius).

As technology advances and demand increases, the cost of TICs has decreased and are now reasonably priced compared to when they first entered the fire service in the late 90s. Today, most career and volunteer fire departments have a decision-making TIC as part of their equipment inventory. There is a growing trend for personal, situational awareness TICs for firefighters mounted in the face masks of self-contained breathing apparatus (SCBA).

A training program must exist where members use live fire scenarios to gain confidence and competence in thermal imaging technology. To enhance firefighter safety, the ATFD should have situational awareness and decision-making TICs available on the frontline apparatus at each fire station.

3.8.5 Electric Vehicle Technologies

By February 2022, 75,274 electric vehicles were in Ontario;[20] by 2030, one of every three sold will be electric. For the most part, fire services are behind in preparing firefighters for incidents involving electric vehicles. Fire service personnel usually respond to conventional fossil-fueled vehicle fires. Electric vehicles run on high-voltage lithium-ion batteries, which can result in dangerously high temperatures if these cars catch fire. Firefighters are also at risk of electric shock from damaged lithium batteries when handling electric vehicles that catch fire. Firefighters must ensure the vehicle is de-energized during an extrication incident to prevent electrical shock if electrical cabling becomes compromised.

Historically, a portable dry chemical fire extinguisher has some success in extinguishing a vehicle fire, provided it is either a Class A or B fire. Flammable metal fires are much more difficult to extinguish due, in part, to the high temperatures they burn at.

Notable facts about electric vehicle fires:

- An electric vehicle fire could take up to 40 times more water to extinguish than a conventional gas-powered vehicle.[21]

[20] Ontario Making it Easier to Access Electric Vehicle Chargers, (Ontario.ca), Accessed October 1, 2023, https://news.ontario.ca/en/release/1001827/ontario-making-it-easier-to-access-electric-vehicle-chargers

[21] Adam Barnes. "Firefighters have to blast 40 times more water at burning Tesla than other cars." The Hill. Accessed October 1, 202., https://thehill.com/changing-america/enrichment/arts-culture/568255-firefighters-have-to-blast-40-times-more-water-at/

- Lithium batteries have been known to ignite hours after being involved in a motor vehicle collision.
- Each fire in an electric vehicle has different characteristics that require some Incident Commanders to call in resources quickly.
- Foam is not an excellent extinguishing agent as it will have difficulty entering a water-tight, fire-resistant box.
- Batteries are not made of solid lithium, making Class D fire extinguishers ineffective. The powder from the extinguisher cannot enter the box where the failed cell(s) are.
- Pancake nozzles are relatively ineffective as there are no means of spraying water inside the box. The water sprayed will only cool the outside of the box and not contact the failing cells.
- Departments should not use devices that slide under the vehicle and then pierce the battery box due to the risk of electrical shock.
- Structural firefighting piercing nozzles should never be used to penetrate the box due to the electrocution risk.
- The best action when attending an electric vehicle fire is to let it burn itself out under the supervision of the fire department, as gaining access to the batteries inside the box is nearly impossible. It takes approximately one hour for a battery to burn itself out compared to continually spraying water to cool the box for six to eight hours. Once the battery has burnt out, use water to extinguish the remaining Class A material still burning.
- ATFD must ensure that all SOGs, procedures, and training are current when responding to electric vehicle emergencies.

ATFD needs to source training courses and acquire specialized equipment for fighting fires in electric vehicles. Such specialized equipment may include an Emergency Plug, which is a device that communicates with the vehicle's software, preventing its operation and the risk of the vehicle driving away.[22]

ATFD should consider taking the NFPA online training course Alternative Fuel Vehicles Training Program for Emergency Responders and updating the downloaded electrical vehicle information app on the Fire Department tablets. Technologies of electric vehicles are constantly changing, and a suitable means of ensuring ATFD members are current is by frequently updating the information on the tablets.

[22] "Emergency Plug." eDarley. Accessed October 2, 2023. https://www.edarley.com/emergency-plug/?utm_source=hp&utm_medium=topbanner&utm_campaign=eplug.

In the third quarter of 2023, the OFM issued Communique 2023-8, mandating that fire departments notify their office of all fires involving lithium batteries. This issuance is in response to the increased number of fires relating to lithium batteries as the cause, some of which resulted in fatalities.

Locally, Honda Canada is an excellent resource for learning about electric vehicles, as the plant in Alliston manufactures electric vehicles.

3.8.6 Telemetry Systems Built into SCBA

Several manufacturers of SCBA offer telemetry systems as an option to purchasers. The system provides a precise overview of the status of the wearer of the SCBA. Transmitting this crucial information between entry control and the wearer significantly enhances firefighter safety on the fireground.

The information provided includes the wearer's air level, the ambient temperature, a Personal Alert Safety System alarm, and their evacuation status. Some manufacturers of SCBA send a message activating an audible alarm on the individual's SCBA console and flashing the light indicators in the heads-up display of the mask. The firefighter then acknowledges the message with a touch of a button. If there is no response, the incident commander knows the individual may need immediate help.

Poor air management is a leading cause of firefighter deaths. This system alerts the Incident Commander when a firefighter's air supply is dangerously low. The Incident Commander can activate an audible alarm warning the affected firefighters so they may leave the building. Advances in technology also provide the Incident Commander with data on the wearer's heart and respiratory rates and their location within a structure. Knowing a firefighter's location allows the Incident Commander to notify the team if conditions are deteriorating so they may expedite their exit from the building. It also provides the Rapid Intervention Team advanced knowledge of the location of the firefighter they are to rescue.

3.9 Dispatching Services

3.9.1 Dispatching Agreement with the City of Barrie

The ATFD receives its dispatching services from BFES's dispatch centre, which goes by Barrie Fire Control (BFC). The agreement, which is for a term of five years, was last updated in 2018, came into effect on January 1, 2019, and is approved by By-Law 18-65 by Council. Based on the information received and a review of the dispatching data, ATFD appears to receive adequate dispatching services. The agreement with the City of Barrie details a fee for services and related infrastructure and operations activities. The cost is per capita in 2023 was $3.10. The current agreement for call-taking and fire dispatch reflects an effective strategy for the ATFD in providing these services.

The service cost is per capita and based on permanent and seasonal population levels. The BFES is responsible for determining the population. There needs to be an inclusion in the agreement that both parties agree with the population figures, which would be prudent. Further, a process for the fire chief to work with municipal partners, including the County of Simcoe, should be established to determine the annual population and ten-year forecast. This process would allow appropriate budgeting for service for current and ongoing years.

What is absent from the agreement is any discussion regarding NFPA 1225, *Standard for Emergency Services Communications*, which is the consolidation of NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, and NFPA 1061, *Standard for Public Safety Telecommunications Personnel Professional Qualifications*. After signing the agreement, NFPA 1225 came into effect in 2020. To BFC's credit, according to Appendix B, their dispatchers have completed NFPA 1061.

BFC is also responsible for activating real-time texting systems to notify the firefighters of the call. BFC also uses the Sinirji 9-1-1 app as another means of informing firefighters that there is a fire call. The app identifies the firefighters who are responding to the fire call. A call is initiated for additional resources whenever the number of responding firefighters is low. Some members receive the call via the portable radios they carry.

The agreement with BFC details a fee for services and related infrastructure and operations activities. Fortunately, as the population does not largely fluctuate between seasons, the clause found in Schedule B, Article 1 B which reflects additional costs for additional population would not take effect. The current agreement with BFC for call-taking and fire dispatch reflects an effective strategy for the ATFD in providing these services.

The ATFD Fire Chief has not developed an SOG or policy concerning response protocols. The types and quantity of apparatus that should respond to the various call types are per the BFC matrix of call types. Once determined, the data becomes uploaded into the CAD at BFES's Communications Centre. This response matrix should be reviewed and updated to ensure it meets the needs of the municipality and sufficient resources get dispatched to each call type. Reports of each incident's dispatch log are available for review and for future reference. Upon completion of the call, the CAD data is available in the FIREHOUSE computer program for completion of the OFM's Standard Incident Reports and subsequent submission to the OFM.

For unknown reasons, there appears to be an excess of apparatus responding. There is no need for a Rescue from each station to respond to a medical emergency unless requested for a specific reason. The other rescue should stand down once the closest unit to the call responds. Having redundant apparatus and personnel responding takes coverage away from an area, creates wear on the vehicle, and adds expenses to the Township for fuel.

In 2024, BFES will change its records management computer program for dispatching. This change is because the current provider, FIREHOUSE, will no longer support this technology. At this time, it is unknown how this change may or may not impact the RMS for ATFD's fire calls. This change may affect their capital budget, and Fire Chiefs are budgeting between $50,000 and $100,000 for the upgrade. The actual amount depends on the features ATFD selects to be in the replacement program. ATFD must transfer all historical data to the new RMS with this changeover. More important, however, is the confirmation that the complete transfer of records can occur before selecting a new RMS.

3.9.2 Radio System

Radio systems have many technological advancements yearly, making it difficult for fire services to maintain current standards.

Simplex vs. Repeater Radio Signals

A simplex radio system is a radio system that talks directly to another radio system (i.e., radio to radio). Radio signal strength using a simplex system is less than that of a repeater radio system. A repeater system receives a radio message and then rebroadcasts it at a higher frequency, thus providing better coverage. Most fire services operate a repeater system for the enhanced radio signal.

Analogue vs Digital

An analogue signal weakens as it travels further away from the initial signal; a digital radio signal maintains the same strength no matter the distance it travels.

ATFD upgraded their radio system to a digital platform using repeaters. The department no longer uses pagers to notify members of a call. ATFD has two mobile repeaters available upon poor communication signals installed in the Everett Station apparatus. The Loretto Station has no mobile repeaters.

There are currently four transmitter sites that ATFD and other Township departments use, and the quality of coverage is spotty at best. None of these sites has backup power when an outage occurs. Each site needs at a bank of batteries that can supply power for at least 24 hours. The Township needs to install backup generators at each location to cover when the batteries fail to deliver power. Each station's generator will provide the station’s base radio with power to ensure operation during power outages.

ATFD has interoperability with surrounding fire services; however, there is no interoperability with other emergency services, such as the OPP and the SCPS as both systems are under provincial jurisdiction and strongly regulated. The interoperability for fire services is primarily for those in the County of Simcoe and not outside the County. Provisions should be determined for the installation of those frequencies as well.

Radio technologies are continually changing, and to ensure they have the most current technologies, all new portable radios should be intrinsically safe and compliant with NFPA 1802, *Standard on Two-Way, Portable RF Voice Communications devices for Use by Emergency Services Personnel in the Hazard Zone*. The Standard outlines the rigorous testing against extreme heat, immersion in water and impact, and being assessed for high battery life standards and remote speaker microphone connections.

3.9.3 Next-Generation Communications (NG 9-1-1)

The 9-1-1 Central Emergency Reporting Bureau (CERB) for the Township of Adjala-Tosorontio is through the OPP at their communications facility in North Bay. Emergency 911 calls are directed to the police service and then to the emergency service required by the caller (i.e., police, ambulance, or fire). The Emergency Management Office of the County of Simcoe coordinates and operates the 9-1-1 system in Simcoe County, including the separated City of Barrie, Canadian Forces Base Borden, and one Indigenous community. The County is not responsible for the separated City of Orilla, Rama First Nation, or the Townships of Ramara, Severn, and Oro-Medonte. In those cases, the City of Orillia Fire Department is the CERB.

In June 2017, the Canadian Radio-television and Telecommunications Commission (CRTC) created regulations regarding the next-generation communications for 9-1-1 centers. This modern technology will "…enable Canadians to access new, enhanced, and innovative 9-1-1 services with Internet Protocol (IP)-based capabilities, referred to as Next-Generation 9-1-1 (NG 9-1-1) services. For example, Canadians could stream video from an emergency incident, send photos of accident damage or a fleeing suspect, or send personal medical information, including accessibility needs, which could greatly aid emergency responders."[23] The following is an excerpt from the CRTC website regarding the program and its benefits for enhancement to public safety communications.

Establishment of new deadlines for Canada's transition to next-generation 9-1-1[24]

The Commission sets out determinations in relation to new deadlines and other matters for the implementation and provision of next-generation 9-1-1 (NG9-1-1) networks and services in Canada, so that Canadians can access new, improved, and innovative emergency services with Internet Protocol-based capabilities. The Commission aims to maintain the NG9-1-1 framework roadmap for the establishment of NG9-1-1 networks and the introduction of NG9-1-1 Voice, albeit with new, extended deadlines.

[23] Government of Canada, Canadian Radio-television and Telecommunications Commission, "Telecom Regulatory Policy CRTC 2017-182, accessed August 30, 2023, https://crtc.gc.ca/eng/archive/2017/2017-182.htm

[24] Telecom Decision CRTC 2021-199 | CRTC, Accessed August 30, 2023, https://crtc.gc.ca/eng/archive/2021/2021-199.htm

Specifically, the Commission directs NG9-1-1 network providers, by 1 March 2022, to, among other things, establish their NG9-1-1 networks, complete all NG9-1-1 production onboarding activities, and be ready to provide NG9-1-1 Voice, wherever public safety answering points (PSAPs) have been established in a particular region.

The Commission also directs telecommunications service providers (TSPs) to (i) make the necessary changes to support NG9-1-1 Voice in their originating networks that are technically capable of supporting NG9-1-1 Voice, including completing all NG9-1-1 production onboarding activities and testing activities, by 1 March 2022; and (ii) begin providing, by 1 March 2022, NG9-1-1 Voice to their customers served by networks that are technically capable of supporting NG9-1-1 Voice, wherever PSAPs have been established in a particular region.

With respect to the implementation and provision of real-time text (RTT)--based NG9-1-1 Text Messaging (NG9-1-1 Text Messaging), the Commission is not establishing new deadlines as part of this decision. Instead, the Commission requests that, once standards are sufficiently advanced with respect to RTT callback and bridging, the CRTC Interconnection Steering Committee (CISC) file a report with the Commission with recommendations related to the provision of NG9-1-1 Text Messaging for all stakeholders.

Further, the Commission directs, among other things, incumbent local exchange carriers (ILECs) to decommission their current 9-1-1 network components that will not form part of their NG9-1-1 networks by 4 March 2025 or earlier if all the TSPs and PSAPs in an ILEC's operating territory have completed their transition to NG9-1-1.

Moreover, the Commission directs Northwestel Inc. to inform the Commission, by 22 June 2021, of its intent to either (i) comply with the new NG9-1-1 implementation deadlines as determined in this decision, or (ii) file for the Commission's approval, by 1 October 2021, an updated transition plan including the location of NG9-1-1 points of interconnection and timelines for the establishment of an NG9-1-1 network in its incumbent territory, wherever PSAPs have been established.

Finally, the Commission is adjusting the CISC Emergency Services Working Group deadlines to file specific reports.

Current Situation - Next-Generation 9-1-1

As noted in the CRTC excerpt, March 4, 2025, is the deadline to decommission current 9-1-1 network components that will not form part of the NG9-1-1 networks. The Fire Chief must ensure that ATFD is a stakeholder at the table through direct involvement or as part of the regional committee for this implementation plan.

Municipalities must understand that there will be significant expenses for the fire dispatch to implement NG 9-1-1. BFES will likely increase fees for all fire departments it dispatches to cover these

additional costs. Currently, there is no firm understanding of the costs incurred with the implementation and annual costs of NG 9-1-1. BFES has budgeted upwards of $2.5 million for the upgrades.

There has been considerable discussion and progress in NG9-1-1 updates that will impact all emergency services. A key concern shared industry-wide is the overall costs of this change. What will be required and what funding will be needed have yet to be determined, as have the municipal responsibilities implied with these changes. The federal government has yet to establish a costing formula for these changes.

While the County of Simcoe is responsible for the 9-1-1 network for most of the County, they should be taking the lead role in coordinating the integration of NG 9-1-1 and its ramifications being included within the tax levy assessed to its municipalities. While the cost has yet to be determined, the Township must be financially prepared for whatever expenses come their way.

3.10 Health, Fitness, & Wellness

A crucial focus must be the health and wellness of staff for all municipalities. The inherent nature of the firefighting profession is stressful and physically demanding. To the credit of the ATFD, both fire stations, are equipped with workout facilities to permit the firefighters to keep fit, which helps reduce work-related injuries.

Many fire departments routinely test firefighters to meet occupational fitness abilities delivered internally or by a third party. NFPA 1582 details basic expectations placed upon firefighters. ATFD is encouraged to review and incorporate these into candidate testing, firefighter fitness, and functionality. EMG suggests that ATFD review the physical expectations of a firefighter for use in training and recruiting.

NFPA 1582 *Standard on Comprehensive Occupational Medical Program for Fire Departments* identifies 14 essential job tasks detailing the physical and physiological strains on firefighters. The Standard outlines the requirements for a department's medical program, including specific conditions that may pose a risk to firefighting.

3.10.1 Cancer Prevention

Employers, supervisors, and workers have a role in taking responsibility for health and safety in the workplace. Everyone must understand their duties, responsibilities, and rights under the *OHSA*, which is integral to ensuring all workers stay safe and healthy at work. The goal is to prevent workplace injuries, illnesses, and deaths.

In recent years, there has been a more intensive review of cancer prevention and a correlation of the disease to firefighting. The focus has been on contamination control surrounding fire incidents. From

pre-fire incident to cleaning and decontamination post-fire, all aspects of prevention are currently under review by all levels of fire service management.

ATFD has taken minimal steps in cancer prevention as it lacks a structured cancer prevention program. While ATFD has implemented some policies/ procedures to address cancer prevention, the Department must review related Section 21 Guidance Notes to include in its cancer prevention program.

Neither of ATFD's fire stations has been equipped with diesel exhaust extraction systems to reduce exposure to vehicle exhaust. Exposure to diesel exhaust over a prolonged timeframe has proven to contribute to health issues. Having an exhaust extraction system in each station will significantly reduce that health concern.

The Ministry of Labour, through its Section 21 Committee, sets out fire service guidance notes. Guidance Note: 3-1 Reducing Exposure to Diesel Exhaust states:

Employers must:

- *Make sure the fire station is adequately ventilated by either natural or mechanical means so that the atmosphere does not endanger the health and safety of workers.*

NFPA 1500: *Standard on Fire Department Occupational Safety, Health, and Wellness Program* specifies that fire departments contain all vehicle exhaust emissions to a level of no less than 100% effective capture.

The Government of Canada has dedicated a website specific to guidance on control measures for diesel exhaust emissions: https://www.canada.ca/en/employment-social-development/services/health-safety/reports/control-diesel-emissions.html

A program that reviews PPE inventories and forecasted replacements must be in place to manage budgetary submissions effectively. To ATFD's credit, it has a program whereby the inspection and cleaning of PPE is done in-house, and a cache of used gear can accommodate a good portion of the membership. Accurate records of the history of every piece of bunker gear from the date of purchase to its decommissioning, which could be part of the Asset Management Program should be tracked in the RMS.

Cancer prevention is not an easy, one-step project. The practices for prevention are as varied as the exposures firefighters encounter at any given incident. Whether motivation comes from the top down or the bottom up, prevention is a long-term and evolving process that must start today. Members of the Health and Safety Committee should be actively promoting cancer prevention. ATFD must develop a formal health and wellness program that includes all facets of health and wellness discussed in this section. The focus needs to be on cancer prevention and mental wellness.

Additional measures that ATFD could implement as part of its cancer prevention program include:

- Reference the *Province's Firefighter's Cancer Prevention Checklist* webpage.[25]
- Develop an SOG and policy to encourage firefighters to participate in a cancer screening program.
- Realizing the limited shower facilities available at the stations, develop SOGs and policies requiring firefighters to shower at the fire station after attending a fire and change into clean clothing before departing for home. Since none of the stations have lockers available, this cancer-preventative measure will require firefighters to carry spare clothing in their vehicles. This initiative will also include washing their uniform at the fire station if domestic washing equipment is available, which is not the case at present.
    - Include locker rooms in the design of the new stations.
    - Install domestic washers and dryers in the plans of the new stations.
- Conduct information nights for firefighters and their family members, including information pamphlets.
- All new fire apparatus should include clean cab technologies, including compartments for transporting contaminated bunker gear.
- Do not store bunker gear on the apparatus floor of the station but in negative-pressure bunker gear storage rooms (with the current station amenities, this is unachievable).
- Document potential exposures by completing exposure reports and incorporating them into the RMS and retention program. Ensure the firefighter also retains a copy of each report submitted.

3.10.2 Fire Personnel and Substance Abuse

The legalization of cannabis in Canada has increased the prominence of the use of cannabis products in society. Impairment from cannabis is almost immediate and can last up to 6 hours or more, depending on factors such as THC levels and how it is consumed. The effects can last longer if you are a new user, have consumed a lot, or have combined cannabis with alcohol.

Since the effects of cannabis vary, there is no way to know exactly how long to wait before it is safe to drive. Roadside tests allow police officers to perform tests to check for impairment, like the tests

[25] "Firefighter's cancer prevention checklist." King's Printer for Ontario. Accessed August 23, 2023. https://www.ontario.ca/page/firefighters-cancer-prevention-checklist

performed for impairment of alcohol or other drugs. The Government of Ontario has a website which discusses the dangers of cannabis and driving:[26] https://www.ontario.ca/page/cannabis-and-driving.

ATFD needs to ensure SOGs and policies are in place that prohibit the use of alcohol and/or drugs and attending to fire department operations. The Township may need to speak to their Employee Assistance Program (EAP) provider to ensure substance addiction is also covered.

Several websites are available to educate and aid firefighters with addiction including:

Topic	Website
Mental Health treatments for first responders in Canada	https://www.edgewoodhealthnetwork.com/who-we-help/first-responders/
Substance use - Canada	https://www.canada.ca/en/health-canada/services/substance-use.html
Firefighters and alcohol: What the data says	https://www.firerescue1.com/fire-chief/articles/firefighters-and-alcohol-what-the-data-says-EEmQCV9ztxdv60BH/
Firefighters & Addiction | Substance Abuse & Addiction Among Firefighters	https://www.sunshinebehavioralhealth.com/treatment/firefighters-and-addiction/

3.10.3 Sense of Mental Well-Being

Firefighting is one of the most hazardous occupations in the world. Firefighters put themselves at risk to save lives and protect property every day. Members of the fire service face many challenges while protecting their communities. The risks associated with the job also increase the incidence of cancer and physical strain on their bodies. The emotional and psychological cumulative stress increases the risk of Post-Traumatic Stress Disorder (PTSD) and death by suicide. As a result of job-related stress, family relationships are also susceptible to strain and devastation. Firefighters and other first responders also face the same challenges and life stress as those in less hazardous lines of work.

The Township of Adjala-Tosorontio has included all its fire department staff in the EAP offered through its municipal employee benefits. This support is an essential piece of employee wellness.

In 2017, the Ministry of Labour required municipalities and their emergency services organizations to submit a PTSD Prevention Plan. Initiation of this program coincided with the identification of PTSD

[26] "Cannabis and driving." King's Printer for Ontario. Accessed September 20, 2023. https://www.ontario.ca/page/cannabis-and-driving

and Occupational Stress Injuries (OSI) as workplace injuries, compensable through the Workplace Safety & Insurance Board (WSIB). The ATFD does not have a PTSD Prevention Plan for its members; a plan should exist that would outline what PTSD is, the dangers it presents, resources for ongoing support, early intervention, WSIB claims management, recovery, and return to work.

Positive mental health is paramount in high-stress, high-risk work settings, such as those in which first responders operate, where their functioning has severe implications for the health, safety, and security of the public they serve.

ATFD should provide an evening training session for members and their partners about PTSD, signs and symptoms, and what assistance is available to those with PTSD or other forms of mental illness. Provide a brochure that families may reference at home, including a list of support agencies.

It would be beneficial for ATFD to have a fire department Chaplain to call upon for support in the event either mental well-being or family-related issues arise with the members of the Department.

As a resource, ATFD members could access the following:

- Review and promote services available on the Crisis Suicide Helpline website: https://talksuicide.ca/.
- ATFD should ensure peer support members train in Road to Mental Readiness (R2MR), a training program focused on first responders, which is now known as The Working Mind First Responders.[27]
- It would be helpful if ATFD, in cooperation with the other emergency services in the County of Simcoe, developed a small information package that families could take home for resourcing.
- Develop a database of support agencies for the first responders and military families to call to speak with fellow first responders when needed. Of these groups is Boots on the Ground, which is Ontario-based (Angus), by calling 1-833-677-2668.
- Access the following website to learn the responsibilities of employers in Ontario concerning mental health in the workplace: https://www.ontario.ca/page/mental-health-workplace.
- To aid in developing a PTSD Prevention Plan, reference other plans developed by a variety of emergency services on the following website: https://www.ontario.ca/page/post-traumatic-stress-disorder-prevention-plans.

3.10.4 Rehabilitation

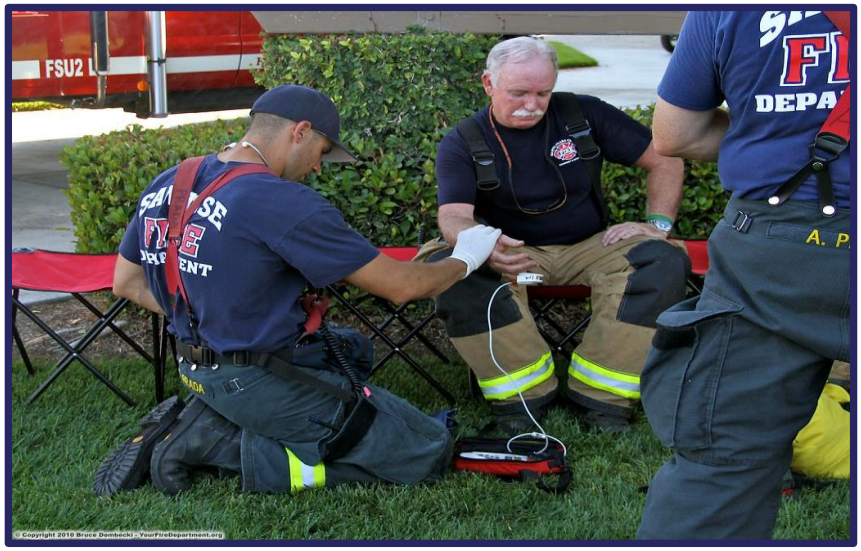
[27] "The Working Mind First Responders." Ontario Association of Fire Chiefs. Accessed August 22, 2023. https://www.oafc.on.ca/education-training/working-mind-first-responders

NFPA 1584: *Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises* outlines requirements for the safe, effective, and efficient rehabilitation of firefighters following strenuous emergency service delivery (firefighter rehab is not just for fires). The Standard addresses nine elements of rehabilitation that fire departments should seek to include in their related SOGs:

i. Responder accountability (who is in rehabilitation?)
ii. EMS treatment as needed.
iii. Relief from climatic conditions
iv. Calorie and electrolyte replacement
v. Rehydration (fluid replacement)
vi. Medical monitoring
vii. Active and/or passive cooling or warming as needed.
viii. Rest and recovery
ix. Release procedures (who is left the rehabilitation area, and where did they go?)

A Personnel Accountability System in rehab provides the required documentation and accountability processes compliant with NFPA 1584. The system should include a workflow-based design, an accurate accountability procedure and a tag-driven system to help optimize rehab operations. Future accountability systems may become available digitally, including barcode scanning involving the personnel's security cards for entering the fire stations or other municipal buildings.

Medical monitoring of firefighters during their sessions in rehab is vital. NFPA 1584 contains specific requirements for the medical monitoring of firefighters in on-scene recovery. The on-scene rehabilitation of firefighters engaged in emergency operations is not a stand-alone activity. Instead, it should be an integral part of a fire department's health and wellness program for its members.



NFPA 1584 also requires an assessment of all firefighters exposed to smoke for possible carbon monoxide poisoning. The symptoms of CO poisoning are non-specific and easy to miss.

3.11 Recruitment and Retention of Volunteer Firefighters

Recruitment and retention of volunteers is becoming more of a challenge within the fire service with the increasing training that must be committed to each year and the consequential staff turnover. As with many POC fire departments, the daytime hours from Monday to Friday are the most significant challenge for adequate response because many POC firefighters are tending to other personal priorities like work, school, or caring for family.

As noted in the training section of this report, the OFM has announced the implementation of mandatory training and certification for firefighters. As of July 2026, all firefighters and officers must meet the upcoming training/ certification requirements and associated timelines specified in the new regulation. Fire departments must therefore evaluate their present training programs and implement necessary improvements to meet the requirements. This increase in training requirements will add to the challenges in the recruitment and training of recruit firefighters and the retention of present members.

Along with administrative impacts associated with certifications, there is also a financial impact on the budgets as staff will need remuneration for attending training sessions. The recruits of the ATFD must travel to other areas to complete the practical portion of certifications. Fortunately for ATFD, two training facilities are nearby that may be taken advantage of for the practical exercises members must meet.

3.11.1 Retention of Firefighters

The issue of retention has become a serious challenge with just about every volunteer fire service. There are numerous reasons firefighters may leave a department, including the firefighters not feeling appreciated by the municipality, the time and effort required for training and response to calls, and the challenges of balancing work and family commitments.

Opportunities to increase retention may include:

- Family nights at the fire station including a movie and children's activities.
- Assign a seasoned member to mentor each rookie when they join.
- Conduct firefighter appreciation events (e.g., dinner, barbeque) where recognition takes place by the Council for their long-term, outstanding service or something exceptional they did at a call.
- The Council should acknowledge the firefighters' employers for permitting their participation in the fire department and/or permitting them to leave work to attend fire calls.
- Survey other fire services to compare pay rates and adjust the honorarium accordingly.
- Implement a service recognition pay incentive. This incentive might include paying extra in the form of a 5% to 10% pay increase for every five years they have been in the Department; this would prevent the loss of years of experience.
- Performance incentive pay for those with high attendance percentages at training sessions and fire calls.
- Offer benefit packages, as many may not have benefits at their primary place of employment, and some are self-employed. Benefit packages would include basic dental, drug, and eyewear coverage.
- Purchase wellness benefits packages for the firefighters, like mental, financial, and family counselling.
- Engage in treating PTSD, a common illness among fire responders.
- Offer an RRSP/pension savings plan with contributions from the municipality after they have been a department member for a predetermined length of time.
- Provide excellent training opportunities to make staff want to remain a fire department member. Make the training sessions fun and memorable.

- Provide recognition and support to those who want to attend Ontario Fire College regional courses, which sometimes require firefighters to use their vacation time from their full-time employers.
- Implementing an "on-call or platoon" program would pay a week or weekend stipend to the volunteer firefighters who commit to being available by signing up for weekdays and/or weekends. Pay for weekend on-call should range from $90 to $130/ weekend.
- Support life-long learning through education assistance programs to support staff in their professional development with higher learning institutions relevant to their vocation.
- Maintain and improve morale by providing modern trucks, equipment, and stations.
- Encourage that each station designs a logo for the station promoting its region of the municipality or its services. They could include a tasteful mascot character. Print the logos on t-shirts and perhaps decals on the apparatus as a sense of pride.
- Provide strong leadership focusing on the Department's Mission, Vision, and Values while resolving conflict promptly.
- Conduct exit interviews with those who leave the Department to understand their reasons for leaving. Exit interviews offer the opportunity to assess the perception of workplace culture, day-to-day processes, management challenges/ solutions, and employee morale. To be impartial, this may require the services of a third party who completes the interviews annually.
- Foster the history of each fire station by creating displays of photographs of past members, events, and apparatus to instill a sense of pride in the Department's growth.

ATFD may have already implemented some of these suggestions but lacks a formal retention program. This list is for the fire chief to review to assist in brainstorming retention efforts.

A final indicator that there may be challenges with depending on a volunteer system is through tracking the number of volunteer firefighters arriving at the fire station to respond to calls. If, for example, the standard set by a fire department is that three or more volunteer firefighters must arrive at the station before the fire truck can respond, this should be recorded and monitored, highlighting the number of times the Department is unable to assemble the needed personnel to effectively respond based on time of day, and day of the week. The continued review of this data will assist with identifying future fire service staffing requirements. Response times are a significant factor when comparing volunteers to full-time personnel. The volunteer firefighters must respond to the station, board the apparatus, and respond to the scene, whereas full-time staff are immediately ready to respond upon receipt of a call; this provides a quicker response time and a heightened level of service.

Many municipalities rely on volunteer firefighters to protect their communities. Gone are the days when members literally volunteered their time to be fire department members. Due to the high cost of training new members, municipalities need to compensate the time they spend working for the municipality. It costs the Township a lot of money to train and equip new firefighters, therefore, ongoing support is required to retain and maintain their investment. One of the best ways to maintain the investment is through the amount paid as an honorarium/stipend. With the rising cost of fuel, vehicles, service, insurance, and general wear on a vehicle, members want fair pay for the time they spend assisting the fire department.

A few years ago, ATFD restructured the pay scale and points system. Doing so has been a sore point with its members as they receive less than before, affecting the number of personnel responding to calls. The main point to reconsider is pay for the first hour. They once received two hours of compensation for the first hour and a single hour's pay for each hour thereafter. Now, they receive an hour's payment for each hour in attendance. EMG recommends that the Council and ATFD revisit the pay structure and consider returning to the previous wage scale.

The following table provides a few departments to compare.

TABLE #7: POC FIREFIGHTER WAGE COMPARISONS

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
Adjala–Tosorontio	10,989	371.53	2	60 – POC firefighter Full-time Fire Chief	2024 Firefighter 3 - $19.26 Firefighter 2 - $21.67 Firefighter 1 - $24.07 Probationary Firefighter - $18.05 Captain - $28.40 Assistant District Chief -$32.99 District Chief - $35.19 Honorarium Assistant District Chief - $1,500	389	183

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
					District Chief - $2,000 Minimum Pay is "Two Hour Call-Out" dispatched by Barrie Fire Dispatch		
Essa	22,970	279.92 km²	2	60 – POC firefighter Full-time Fire Chief and Deputy Chief	(2023) District Chief - $30.37 Captain - $29.05 Acting Capt. - $27.74 Firefighter - $26.41 Probationary firefighter - $19.80 Honorarium District Chief - $2,573.94	511	370

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
					Training Capt. - $1,930.50 Captain - $1,286.90 Based on 2 hours pay for the first hour followed by hourly rate.		
New Tecumseth	43,948	273.87 km²	3	120 - POC firefighter 5 – FT Including Fire Chief, Deputy Fire Chiefs (2), Training Officer (1), Fire Prevention/PFLSE Officer (1)	2023 Probationary firefighter - $19.88 Firefighters - $22.56 Acting Captains - $23.68 Captains - $24.79 Assistant District Chief - $26.49 District Chief - $28.17	1170	366

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
					Fire Inspector/PFLSE - $23.68 Secretary - $23.68 Health and Safety Representative - $23.68 Emergency Response Step 1 $24.45 $25.44 $26.43 $27.43 $28.42 Step 2 $25.67 $26.71 $27.75 $28.80 $29.84 Step 3 $26.90 $28.00 $29.00		

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
					$30.00 $31.37 Step 4 $28.72 $29.07 $30.07 $31.06 $32.05 Step 5 $30.56 $30.85 $31.85 $32.84 $33.84 Based on 2 hours pay for the first hour followed by hourly rate.		
Clearview	14,814	556.37 km²	5	90	Firefighter: For response or training facilitator: Level 1 - $26.33	940	164

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
					Level 2 - $27.72 Level 3 - $29.18 Level 4 - $ 30.71 Firefighter for training, fire prevention, and extra duties: Level 1 - $18.43 Level 2 - $19.40 Level 3 - $20.43 Level 4 - $21.50 Captain: For response and training facilitator: Level 1 - $29.96 Level 2 - $31.54 Level 3 - $33.20 Level 4 - $34.94		

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
					Captain for training, fire prevention and extra duties: Level 1 - $20.97 Level 2 – 22.08 Level 3 - $20.43 Level 4 - $24.46 ***Note: Officers do not receive an additional stipend.*		
Town of Caledon	76,581	688.82	9	Composite fire department with full-time firefighters at the Bolton Station.	Probationary firefighters - $27.00 2nd Class - $30.00 1st Class - $33.00 Captain - $36.50 Acting Captain - $35.50	Approximately 3,000 to 3,500	Unknown

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
					District Chief - $39.00 Act. Dist. Chief - $37.50 Shift training instructor – Additional $1.00 on top of the hourly rate Public Educator - Additional $1.00 on top of the hourly rate Driver – Additional $1.00 on top of the hourly rate Pump Operator - Additional $1.00 on top of the hourly rate		
The Blue Mountains	9,390	284.65 km²	2	8 FT, 20 vol (Council permits	Recruit – $20.00	334	353

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
				44 POC firefighters)	Probationary. - $23.00 Step 3 Certified Firefighter-1- $31.64 Step 4 – Certified Firefighter-2 - $33.40 Step 5 Gen Level Certification - $35.16 Weekend on-call - $86.13 /weekend		
Township of Brock	12,567	422.64 km²	3	2 FT, 1 PT 79 volunteer firefighters	Min of 2 hrs/call. District Chief - $35.39 Captain - $33.98 Acting Captain - $30.00 1st Class - $28.30	335	155

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
					2nd Class - $25.47 3rd Class (Prob) - $22.64 Maintenance and Training – All $19.22		
Perth East	12,595	711.93 km²	3	68 volunteer firefighters	Firefighter - $34.99 Firefighter receives $2,479.96 annually to be on call for 13 weekends (6 p.m. Friday to 6 p.m. Saturday). Captains are paid $34.99 for responses. They also receive $3,666.17 to be on call for 13 weekends.	266	185

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
					Deputy Station Chiefs are paid $34.99 for responses and a $5,866.17 annual honorarium. **Station Chiefs** are paid $34.99 for responses and receive $9,866.17 annual honorarium. **Training nights** 2 to 3 hrs. – Flat rate of $46.64/night		
Scugog	21,581	474.38 km²	2	58 volunteer firefighters, 5 FT, 2 PT	**2022 rates for emergency response and public education events range from $20.84 - $45.45, with 1st Class rate being $37.88 per hour. (firefighters are assigned classes)**	526 (2022)	342

Municipality	Population Served (2021 Census)	Community's Geographical Area	# of Stations	Firefighter Staffing Volunteer and Full-time	Wages/Stipends	Annual Incidents (Including Medical)	Population to Firefighter Ratio
					The 2022 **training rate** was $24.82 per hour. The **summer standby** rate was $110.60 per day. Captains and District Chiefs are paid more for their participation in emergency response and public education events. The 2022 rate for a **Captain** was $41.66, and for a **District Chief** was $45.45.		

Section 3: Recommendations

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
4	ATFD hire a second Administrative Assistant.	Short-Term (1 to 3 years)	To start as part-time for an estimated cost of $25,000 to $35,000 annually. Eventually move into a full-time position (with benefits) could be in the amount of $50,000 to $60,000 annually.	This administrative support model allows for support for both the Fire Prevention and Training Divisions. With community growth, there will be an increase in fire prevention inspections, along with the need for someone to keep track of all staff training and certification records. The present Administrative Assistant is already at full capacity and will require support.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
5	ATFD continues to invest in its fire cause and determination program through certification and continuing educational opportunities for designated members with supporting SOGs.	Short-Term (1-3 years)	Staff Time	Comprehensive fire cause determination efforts help to direct fire prevention and public education efforts to community-specific needs.
6	ATFD review its current inspection practices with a view to changing from a report-based practice to that of an order-based practice.	Short-Term (1-3 years)	Staff Time	This will facilitate an easier prosecution process should it be necessary to move non-compliant buildings to a state of compliance.
7	ATFD examines opportunities to digitize its fire inspection reporting and record keeping practices, including handheld computing devices for inspectors.	Short-Term (1-5 years)	Staff Time	The use of handheld computing devices (i.e., tablets) can optimize administrative-related inspection and reporting activities, saving time.
8	Create a Training Division, where the division is under the tutelage of either the Fire Chief or the Deputy Chief and where the coordination of the division is the responsibility of a staff with the rank of Assistant Deputy Chief with oversight of the training across both stations.	Immediate (0 to 1 year)	Staff Time	The ATFD's silo training model creates a decentralized training management system that results in the questionable fiscal management of training and inequitable training delivery affecting the overall efficient and effective training and education operability of the ATFD.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
9	The Training Division to be staffed with an officer in the rank of Assistant Deputy Fire Chief (Training Officer roles and responsibilities).	**Immediate (0 to 1 year)**	OPTION A: ATFD hires a full-time Assistant Deputy Fire Chief of Training. There would be wages and salaries increase of $100K to $120K. OPTION B: ATFD creates a volunteer Assistant Deputy Fire Chief of Training. Renumeration should be appropriate for the workload and level of responsibilities required of the position. OPTION C: In this FMP, EMG proposed the hiring of a Fire Prevention Officer. ATFD could hire a full-time Assistant	The creation of a Training Division would require the creation of a new position. Although EMG's analysis suggests that 4 (3.96) full-time staff would be required to support ATFD training needs adequately, EMG believes that **one full-time dedicated Training Officer** supported by a training clerk responsible for the day-to-day administration of records and clerical duties associated with program development, lesson plans, scheduling, etc., would suffice to administer the ATFD training needs adequately. The full-time training officer would coordinate and supervise training delivery through the assistant district chiefs and captains as per the current model. A full-time Training Officer would provide consistency and uniformity in training delivery.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
			Deputy Fire Chief with dual responsibilities of Prevention and Training.	
10	The ATFD adopts a remuneration policy for appointed instructors/trainers.	Short-Term (1 to 3 years)	Salary cost increase will be incurred. Amount will depend on determined rates.	To ensure the quality of instructors and quality of instructions, including certification to NFPA 1041: *Standard for Fire and Emergency Services Instructor Professional Qualifications*.
11	The ATFD ensures that any training props comply with NFPA 1402, *Standard on Facilities for Fire Training and Associated Props*.	Immediate (0 to 1 year)	Staff Time	NFPA 1402 provides guidance for the planning of fire service training centers, focusing on the main components necessary to accomplish general firefighter training effectively, efficiently, and safely.
12	The ATFD create a Live Fire Training SOG to support their live fire training efforts.	Immediate (0 to 1 year)	Staff Time	The most frequently cited contributing factors in the National Firefighter Near-Miss Reporting System are situational awareness and decision-making. In the live-fire training environment, both skills are crucial to the operation's success and can be repeatedly practiced and fine-tuned. A SOG will solidify the importance of live-fire training.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
13	The ATFD sets its HAZMAT training to the Operations Level to adhere to their core service as prescribed in the By-Law 2023-42 and to adhere to the MOU with the City of Barrie regarding provisions of special operations services.	Immediate (0 to 1 year)	Staff Time	The By-Law states that the City of Barrie provides HAZMAT operations and technician Levels through an MOU adopted through the Township of Adjala-Tosorontio By-Law 22-102 and By-Law 22-101. However, the MOU stipulates the Township of Adjala-Tosorontio shall "provide additional personnel, equipment, support, and agencies as may be requested by BFES". Training to the HAZMAT Awareness Level does not provide adequate knowledge and expertise to support BFES in case of a HAZMAT response. This risk can be managed by ascertaining that the ATFD trains its firefighters to NFPA 1072 Operations Level.
14	The Township of Adjala-Tosorontio By-Law 2023-42 should be updated to align technical rescuer core services with wording from Table 1 of the Ontario Regulation 343/22. Secondly, all staff should be trained to the OPERATIONS level for any technical rescuer core service identified in the Township of Essa By-Law 2023-42. Thirdly, all technical rescuer training programs should be	Immediate (0 to 1 year)	Staff Time	Aligning wording in the By-Law with O. Reg. 343/22 will avoid misunderstanding as to the adequate level of service provided and to avoid unnecessary training expenses. This standard specifies the minimum requirements for the ATFD-identified levels of functional capability for conducting operations at technical search and rescue incidents while minimizing threats to rescuers. Like the HAZMAT training conundrum, the current technical rescuer training at the

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
	monitored to adhere to the NFPA 1006: *Standard for Technical Rescue Personnel Professional Qualifications* and in accordance with Ontario Regulation 343/22: *Firefighter Certification*. Finally, EMG recommends that the ATFD aligns its technical rescuer operations and training to NFPA 2500: *Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services*.			Awareness Level contravenes the Township's responsibility prescribed in the MOU with the City of Barrie, where ATFD's training does not provide adequate knowledge and expertise to provide support to BFES in case of a technical rescue response.
15	Streamline the fire suppression training to ensure standardization and uniformity of training to all firefighters.	Short-Term (1 to 3 years)	Staff Time	This can be accomplished through universal lesson plans and an annual training schedule with a single subject-matter trained at both stations and through joint training exercises. The ATFD should implement the utilization of the LMS called FLMS for both fire stations.
16	The ATFD trains all its firefighters to Fire and Life Safety Educator Level 1 and that the ATFD captains also be trained as Public Information Officer under the NFPA 1035.	Short-Term (1 to 3 years)	Cost of training will be required. OFC offers an online training at $65.00 per student.	ATFD are innovative in engaging their firefighters in public fire and life safety education. Training for all staff will augment the program profile and its efficiency and effectiveness.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
17	The District Chief at each station should be certified to NFPA 1031 Fire Inspector Level 1.	Short-Term (1 to 3 years)	Cost of training will be required. OFC offers an online training at $65.00 per student.	Ideally, both district chiefs and all captains should be trained and certified to NFPA 1031 Fire Inspector Level 1 to meet the goals set in the Township of Adjala-Tosorontio By-Law 2023-42 pertaining to Fire Prevention – Core Services.
18	The ATFD Fire Prevention policy addresses training requirements and that the training requirements for Fire Prevention which should be set at Level 2 of NFPA 1031: *Standard for Professional Qualifications for Fire Inspector and Plan* Examiner be added to the program development and delivery of the ATFD.	Short-Term (1 to 3 years)	Staff time only	With the adoption of O. Reg. 343/22, made under the *FPPA*, 1997, it will become incumbent on the ATFD to take a more active role in testing and certification to NFPA 1031 and NFPA 1035. ATFD's policy should align with the regulation's certification requirements set in Table1.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
19	The ATFD dedicated fire investigators be concurrently certified to NFPA 1033 and NFPA 921; that the fire investigation operations and training adhere to NFPA 1231: *Standard for Fire Investigation Units;* and that the ATFD be responsible for monitoring, record keeping, testing, and certification to the said NFPA standards.	Short-Term (1 to 3 years)	Cost of training will be required. OFC and regional training centres offer a fire investigation training. It is estimated that cost of external training would equate to approximately $2,500 per student.	The O. Reg. 343/22 sets the fire investigator certification requirements to NFPA 1033. Qualification for NFPA 921 is essential because it is the companion guide to the NFPA 1033.
20	The ATFD expand its investment in its LMS - FLMS to effectively capture all training records and that customization be programmed to ensure a smooth transfer of data from the LMS to the ATFD Administrative database (currently FIREHOUSE).	Short-Term (1 to 3 years)	ATFD has already adopted the Stillwaters Learning Management System called FLMS. Cost should be minimal.	The ATFD training reports and records do not align with NFPA 1401: *Recommended Practice for Fire Service Training Reports and Records* and Part 7 of the Section 21 Guidance Notes. The two stations have different means of keeping records. Although ATFD has a LMS with recordkeeping capabilities, it is not used to record training. Most training records are tracked manually. Manually recorded training records are then forwarded to the ATFD Administrative Assistant, who enters the information in the record management software called FIREHOUSE.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
21	The ATFD invests in developing a promotional process for firefighter increment, captain, district chief, and assistant district chief positions.	Short-Term (1 to 3 years)	Staff Time	The ATFD do not have or have outdated promotional policies/SOGs. Procedures and processes are not prescribed in dedicated promotional policies or SOGs, resulting in departmental productivity deficiencies and morale issues.
22	ATFD to participate in the SCPS Quality Care Program in patient care and training.	Short Term (1 to 3 years)	Staff time/stipend and disposable medical supplies	Doing so would ensure the quality of care consistent with the training and program monitoring. In the end, the patient receives an enhanced level of treatment.
23	ATFD trains and permits firefighters to administer naloxone to patients who have experienced an opioid overdose and epinephrine to those with an allergic reaction.	Short Term (1 to 3 years)	Staff Time/Stipend	Permitting firefighters to administer naloxone and epinephrine will enhance ATFD's patient care, possibly saving lives.
24	At least two members of ATFD are trained to the operations level in elevator rescues per the TSSA Standard.	Short Term (1 to 3 years)	Staff Time, plus training and possibly some hand tools.	Having at least two members trained in this discipline permits ATFD to meet its due diligence in ensuring the members of ATFD are trained to the Awareness Level.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
25	Update the automatic Aid Agreement with the Township of Clearview for fire protection in the Township of Adjala-Tosorontio, which includes expanding the response zone to the 30th Sideroad.	Short Term (1 to 3 years)	Staff Time	Expanding the response boundary provides enhanced service provision to several residents residing in the new area of the agreement.
26	Ensure there are SOGs, training, and specialized equipment to fight fires involving lithium-ion batteries found in vehicles, scooters, and motorbikes.	Short-Term (1 to 3 years)	Staff Time The cost of training programs and specialized equipment has yet to be determined. Early estimates for the Emergency Plug are $925 USD.	Electric vehicles present a high rate of fires involving lithium-ion batteries.
27	Include references to NFPA 1225 in the Township of Adjala-Tosorontio's dispatch agreement with the City of Barrie.	Short-Term (1 to 3 years)	Staff Time	This addition to the agreement will identify expected competencies and service provisions from BFC.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
28	The Township must install backup power at each radio transmission site, including batteries and a generator.	Immediate (0 to 1 year)	$60,000 to $75,000	Uninterrupted radio communication is paramount in emergency services.
29	ATFD arranges for the programming of the radio frequencies of the surrounding fire services from outside the County of Simcoe in all ATFD mobile and portable radios.	Short-Term (1 to 3 years)	$7,000 to $15,000	ATFD often responds with fire services outside the County of Simcoe; having the ability to communicate with them is necessary for seamless operations.
30	The Township of Adjala-Tosorontio establishes a reserve account for covering expenditures incurred while implementing NG9-1-1.	Short-Term (1 to 3 years)	Costs have yet to be determined by the Federal Government and passed onto lower-tier municipalities.	Having funds set aside will lessen the impact of unexpected costs associated with this technological change.
31	ATFD must develop an all-around wellness program focusing on cancer prevention measures and a mental wellness program.	Short-Term (1 to 3 years)	Staff Time	It is well documented how fitness aids members in having a healthy lifestyle that may reduce the incidence of injury and illness.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
32	ATFD invests in decontamination equipment and develops the appropriate policies and SOGs to decontaminate firefighters at the fire scene.	Immediate (0 to 1 year)	Staff Time approximately $5,000.00 is required for decontamination equipment.	To reduce the risk of exposure to carcinogens, begin at the fire scene by cleaning the bunker gear and not transporting it back to the station in the cab of the apparatus.
33	Council and ATFD revisit the pay structure and consider returning to the previous wage scale of two hours of pay for the first hour and one hour of pay for each hour after that.	Short-term (1 to 3 years)	$125,000 to $200,000	Returning the pay rate to the previous policy will provide extra income as a thank-you to the members for their service to the community. Paying the extra funds may reduce the exposure of training recruits because members have left as the compensation was insufficient.

SECTION 4

Facilities, Vehicles, Equipment and Water Supply

SECTION 4: FACILITIES, VEHICLES, EQUIPMENT, & WATER SUPPLY

This section will assess facility needs, vehicles, equipment and station locations - review existing facilities and provide recommendations for future locations relative to current and future service delivery demands and applicable standards, as well as consider potential needs for relocation or additional stations.

4.1 Facilities Review

Fire stations should be in their community's most efficient and effective response location. Centering them within a determined response zone based solely on timed response is not necessarily the best solution. Fire station location depends on many factors such as key risks within the response zone, future growth of the community, and station staffing composition (full-time or POC firefighters). Another consideration is the community's geographical layout which can include natural barriers or divides, such as water, making it necessary to have some stations close to each other.

OFM Public Fire Safety Guideline – PFSG 04-87-13 on Fire Station Location states that fire stations should be situated to achieve the most effective and safe emergency responses. Distance and travel time may be primary considerations; however, if the community's decision-makers establish a basic expectation of response time, then a more realistic level of service and fire station location criteria may be set.

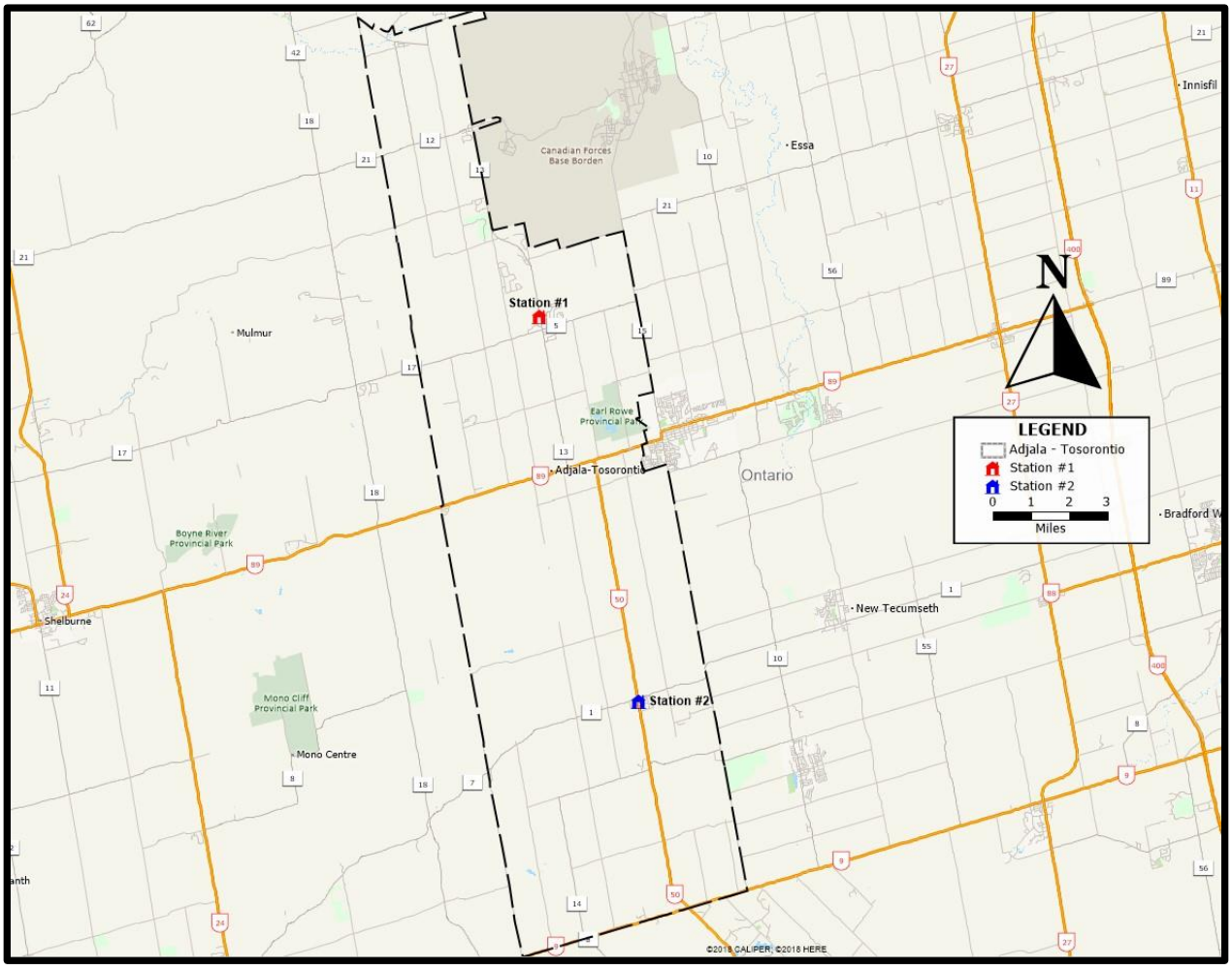
Historically, fire stations may be considered a community focal point. They have traditionally been located on main roadways in communities to provide quick access and response by the firefighters. The intent is that they last 30 to 40 years, and as such, the planning and design must not only address the needs of today but those of the Department in 20 years and beyond.

The following is an assessment of each station; no destructive testing was conducted in any of the structures.

The ATFD has two fire stations located at:

- Station 1 – 6234 County Road 13, Everett
- Station 2 – 2821 County Road 50, Loretto

FIGURE #19 - LOCATION OF CURRENT ATFD FIRE STATIONS



4.1.1 Fire Station #1 – Everett

Fire Station #1 was the original Township of Tosorontio Fire Station, circa 1967. It has had two additions over the years to meet the needs of the fire service – one in 1994 and the other in 2001. While it is maintained as best as possible without spending excessive amounts, the facility is deteriorating. Over the years, it has undergone interior renovations/changes including a satellite station for the OPP and an operational post for the SCPS. The office area was originally the Township of Tosorontio municipal offices until it joined the fire station.

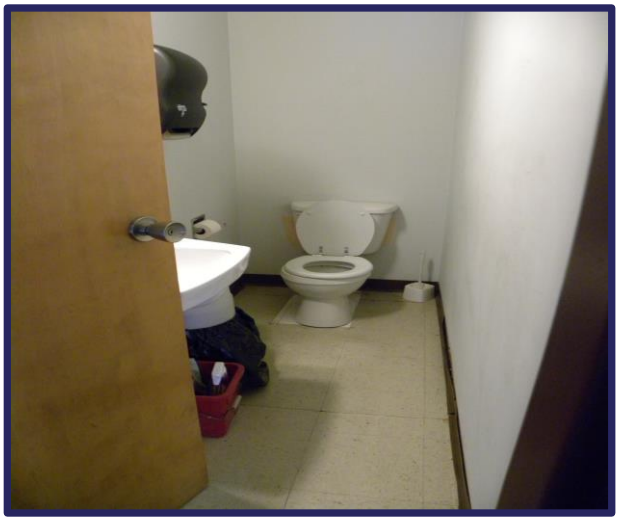
Fire Station 1 – The training room, offices, OPP, and paramedic substations are to the right.

This portion was the original Township of Tosorontio Municipal Offices.

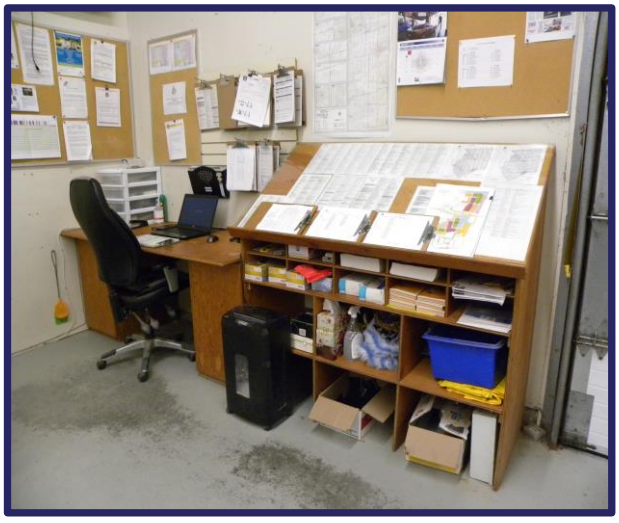
Training Room

District Chief Office

Kitchen



Washroom

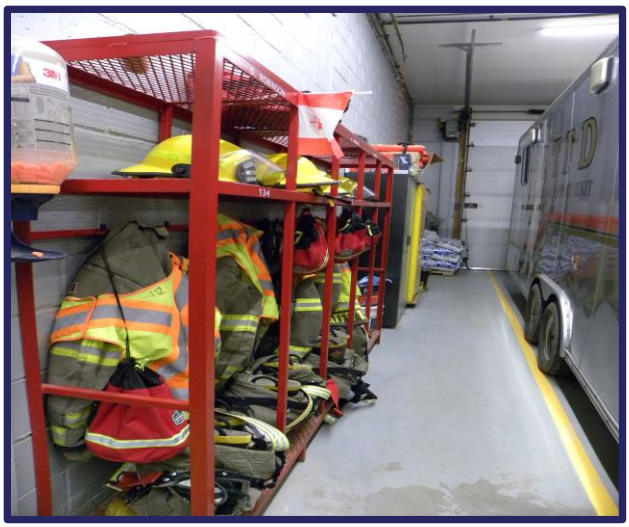


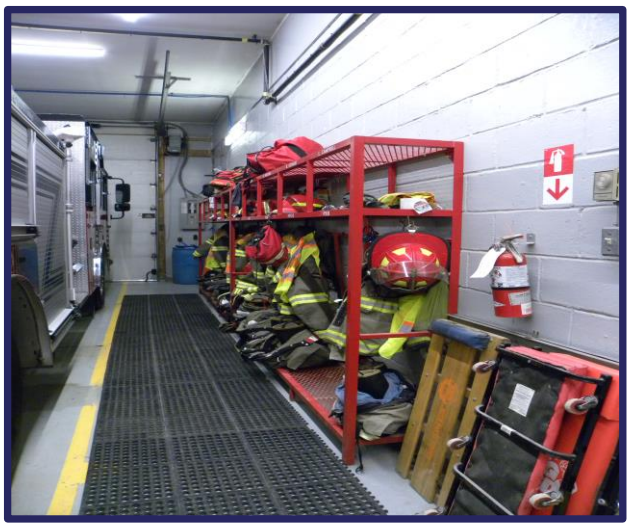
Work area on the apparatus floor

SCBA Bottle Refill Station Maintenance Area

Brush10

Utility 17 (Prior Fire Chief's Vehicle)





Bunker Gear Stored on Apparatus Floor

Equipment/SCBA Mask Wash Station

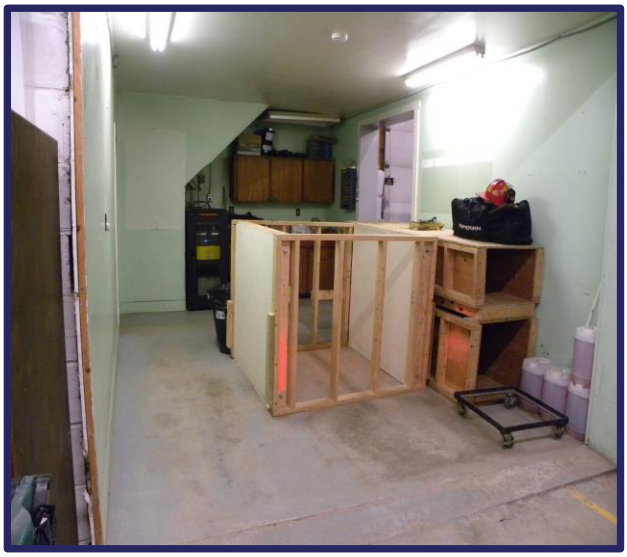
Spare Hose / Storage

Bunker Gear Extractor

Rescue 16 (note proximity to the door)

Pump 12

Tank 14 park against Brush 10



Work area behind Squad 11

Squad 11

Restricted Space along Pump 12

One of Several Electrical Panels

Shared OPP/Paramedic Office

Fitness Area

Station Concerns:

- Each overhead door requires sensors and red/green lights. The lack of these should be considered a health and safety concern.
- The SCBA refill station and maintenance bench should be in a dedicated room, not on the apparatus floor where exhaust particulates are present.
- The apparatus bays lack space; washing the apparatus is not ideal with the lack of workspace around the trucks as some are parked against the door.
- The station is not *AODA*-compliant, yet it is an alternate site for the Emergency Operations Centre (EOC) during an emergency.

Overall, the Township and firefighters are to be commended for maintaining this building in an operational state. Still, it has far exceeded its is expected lifespan and replacing it as soon as possible is recommended. In 2023, with the high construction costs, a new one will cost approximately $5 to $7.5 million.

4.1.2 Fire Station #2 – Loretto

Built in 1972, Station 2 has undergone significant additions and upgrades.

While ATFD has done an excellent job at maintaining this station, it is aging. Planning for its replacement on the same land should be considered in the long-term after replacement of Station 1. With the surging prices of construction, fluctuating inflation, and now a recession, its projected costs could not be accurately predicted at this time, but will range from $8 to $10 million.

Note: Since COVID started, shortages and costs have significantly increased across North America. Labour shortages, particularly of trained construction workers, have resulted in delays in most station projects. In 2022, the construction cost in Ontario for a Health Care Centre – Ambulatory rose from a minimum of $6,750 to a maximum of $7,610 per sq meter and a warehouse from $1,470 to $1,780.[28]

The Front of Station 2, Formerly the Township of Adjala Municipal Office.

[28] Building construction costs in Ontario 2022 | Statista, Accessed October 4, 2023, https://www.statista.com/statistics/972912/-building-costs-ontario-canada-by-type/

Front of Station 2

Apparatus Bays

East side office area

East wall

The Rear of the Building Viewing the West

Fire Chief's Office on the West Side

Meeting Area

Office Area in Large Open Area

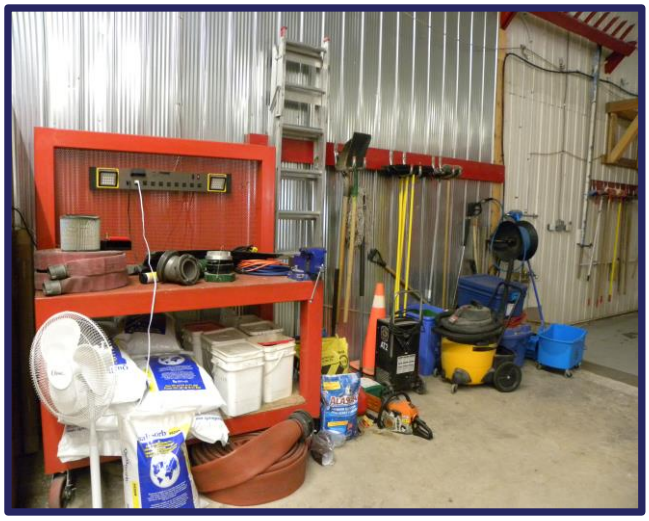
Administration Assistant's Office

Apparatus Floor

Rescue 26

Tank 24

Utility Area Behind Rescue 26

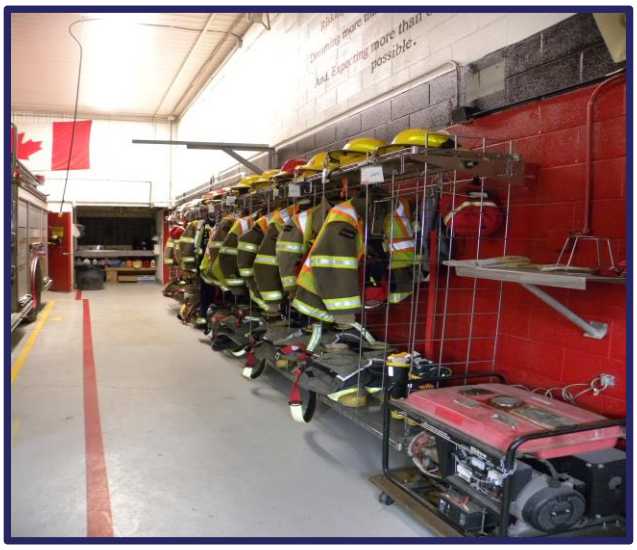


Work Area Behind Tank 24

Utility 27

Squad 21

Pump 21



Bunker Gear on the Apparatus Floor

General Wash Area

Breathing Apparatus Maintenance Room

SCBA Bottle Refill Station

Air Compressor to Refill SCBA Bottles

Spare Bunker Gear

Station Concerns:

Like Station 1, this station requires:

- sensors and red/green lights on its overhead doors.
- As storage space has hit capacity, decluttering is in order, including removing items that are no longer purposeful or are redundant.
- The oil separator tanks at this location are not functioning as they should be.

Overall Facilities Assessment

There are a few areas of concern, namely, the bunker gear stored on the apparatus floor near the exhaust of the fire apparatus; the lack of at-source exhaust extraction systems in the two stations; and lack of dedicated bunker gear storerooms with a negative pressure ventilation system – this system will draw out any off-gassing of chemicals that could be present in the building and prevent them from leeching into the general quarters.

Another concern is the lack of red/green lights and safety sensors on the overhead doors where the apparatus drives through. The lights are red when it is unsafe for the apparatus to exit as the door is not fully open. The green light comes on when the door has stopped, and it is safe to leave. Sensors are attached to the door's railings that prevent the door from descending when the beam of light is blocked. Otherwise, the door could lower/ close as a person or apparatus obstructs the doorway.

As with many fire services, cooking facilities at the fire station are used before a meeting or during a special fundraising event. Stations should have an emergency shut-off valve/switch to the cooking equipment. This shut-off may be activated when a call is received to ensure that the power or gas supply to the cooking equipment is off until the members return and deactivate the valve/ switch.

In both stations, storage is limited, and the Department should look for solutions to enhance its storage space, including liquidating the excess equipment or acquiring outdoor storage containers (provided municipal by-laws permit their use). An example of excess equipment is at the rear of Station 1 in Everett, where four porta-a-tanks are stored. One spare tank is typical; the Department must decide if it requires four. A common feature many fire departments lack is storage.

Another feature missing in the fire stations is floor drains on the apparatus floors with oil separators. While the Everett Station has floor drains, it lacks oil separators, and the Loretto Station has floor drains on a small area and not the entire floor, leading to the administration offices' flooding. The oil separator is attached to whatever gutters are there but is not functioning as it should and requires repairs. A thorough cleaning is most likely needed, requiring a licensed pump truck with a Ministry of Environment permit, as the separator's contents are considered contaminants. The lack of or adequately functioning oil separators is an environmental risk.

Automatic emergency standby generators that activate when a power failure occurs are necessary at both fire stations. Those in service at the stations require manual starting, implying that someone must attend the station to start them and plug them into the building's transfer switch or lay extension cords throughout the building. In neither situation does the generator

have the capacity to energize the entire structure; it is a health and safety issue when people cannot see and a trip hazard from extension cords lying about. Automatic standby generators that energize the buildings must be purchased and then be relocated to the new stations.

Current industry standards for designing and constructing a fire station have identified the enhancements, amenities, and features a POC fire service would require. The following is a partial list of what is necessary when building a fire station for a POC fire department:

- Post-disaster-engineered structure
- Emergency backup power supply
- Gender-neutral washrooms, locker rooms, showers, and dormitory (for when the fire stations have staff, 24-hours a day)
- Barrier-free, *AODA*-compliant
- Negative pressure storeroom for active bunker gear
- A storeroom for bunker gear and another for equipment.
- Vehicle exhaust extraction system
- Water runoff separation tanks in the apparatus floor
- Emergency eye wash and decontamination station
- Offices for the station officer and firefighters
- Study room
- Communications Office (radio system to receive fire calls)
- Technologies room (i.e., phone, computer, radio, etc.)
- Kitchen
- Drive-through apparatus bays
- Lounge
- Fitness room
- Tool/repair room
- Station supply storeroom
- Clean maintenance room for cleaning/disinfecting and repairing items such as face masks, SCBA, medical equipment, etc.

- Bunker gear extraction machine and dryer
- Domestic washing machine and clothes dryer
- Training/meeting room
- Emergency shut-off for cooking equipment.
- Given that the station would be a 30–40-year investment, a new station must include amenities required for full-time staffing.
- Red/green lights installed at the overhead doors to notify the drivers when the overhead door is fully open.
- Sensors at a low level should be installed on overhead doors to prevent closing if the sensor's beam is blocked, indicating an obstruction in the doorway.
- Smoke and CO alarms and, in some instances, fire sprinklers.

4.1.3 Fire Station Options

Traditionally, emergency response stations have been stand-alone structures. Municipalities, including the Township of Adjala-Tosorontio, have been shifting to integrating services into shared-use buildings, with emergency service response stations built into community centres, libraries, public works buildings, etc.

It is common across Canada to have different emergency services co-located, including fire and police; fire and paramedics; or all three in the same building as seen in the Emergency Services Hubs in the City of Barrie and the Township of Clearview. These stations typically have separate quarters within the same building, with separate entrances and facilities. This arrangement permits each service to operate independently of each other while taking advantage of the efficiencies of a single structure.

Municipalities seek opportunities to create more efficient use of space and financial resources and integrate municipal services within the community. Several models operate in different jurisdictions, including public/private partnerships, partnerships with non-profit organizations, and leasing available commercial space.

As technology, community demographics, and operational requirements evolve, maintaining flexibility in the station design, construction, and location will benefit the community in the long-term. Leasing a facility reduces the initial capital outlay, placing building maintenance responsibility on the landlord and allowing the municipality the flexibility to relocate should there be a change in community development.

The following is the City of Vancouver Fire Station #5, which cohabitates a community housing project run by the YWCA. The two main floors comprise the fire station, with the upper four floors of the six-storey building providing 31 affordable housing units for single mothers and their children.

While the City of Vancouver funded the fire station, the YWCA housing portion of the building received funding from the municipal, provincial, and federal governments and the YWCA, which launched a capital fundraising campaign. Integrating the two services provides safety and security for single mothers and their children.

In Calgary, a unique fire station includes a two-storey podium building with two high-rise towers. The 11-storey east tower contains 88 affordable housing units, while the 18-storey west tower contains 132 market housing units. The fire hall is at the base of the building, composing two storeys. This initiative is a very successful public/ private partnership.[29]

[29] "838 – 4th Avenue SW," ITC Construction Group, Accessed August 24, 2023, https://www.itc-group.com/project/solaire-louise-station

The City of Barrie has leased the end unit of a commercial strip mall as a fire station *(pictured below)*. The landlord constructed the unit to meet the city's requirements.

Leasing buildings long-term is a viable option for the Township, which may allow them to have two new stations without the extensive immediate costs that may result in the need for debentures. A monthly payment manageable by the Township presents less financial exposure than the $5 to $7.5 million or more outlay for each station.

EXTREME fire stations are a new concept, a Canadian-built product out of Lethbridge, Alberta. It is a modular-based building, built to seismic and building code standards, using high efficiency, energy code compliant HVAC systems and fire suppression systems; these are standard on EXTREME stations.

The positive aspects of EXTREME fire stations are that they are custom-built at a factory and transported to the site, where they are quickly ready for occupancy.

Extreme Fire Station Assembly (On-Site)

A typical fire station has a life expectancy of approximately 50 years before the cost/benefit ratio starts to work against the municipality in terms of maintenance, essential function, and design. The EXTREME fire stations can meet and exceed that life cycle because they are made from steel and aluminum and can add modules if the station needs to expand its footprint.

Extreme Fire Station (Multi-Bay Example)

The West Conrad station is an example of the diversity of EXTREME fire station designs and how they are constructed and expanded to meet the customer's needs.

A partnership with non-profit organizations, EMS, or leasing available space in a new fire station are options as municipalities become more innovative in incorporating a fire station into the community. These models may not be appropriate in every community, but these options are worth exploring to decrease costs while increasing the fire department's response capacity.

Calgary Fire Department Waldon Station

Before March 2021, a two-bay EXTREME fire station with appliances, an exhaust extraction system, an exercise room, and administration space had an estimated cost of $2.4 million. Unfortunately, the construction industry is experiencing unprecedented spikes in building materials like wood, cement, and steel, creating challenges in projecting the final price.

4.2 Vehicles and Apparatus

4.2.1 Fire Apparatus - New and Replacement Schedules

This section assesses the general state of the Department's apparatus, vehicles, and equipment by reviewing existing conditions, maintenance programs, capital replacement schedules, and plans relative to existing and expected service demands.

When assessing a fire department's ability to respond and meet the community's needs, FUS considers the age of a fire truck as one of its guidelines. ATFD endeavours to keep fire vehicles on a 20 to 25-year replacement cycle to keep them inline with the FUS recommendations and create a benchmark for forecasting fire truck replacements. The pumpers and tankers get replaced every 20 years. The utility vehicles are on a 15 to 17-year cycle, which may be excessive based on the high mileage these vehicles will have at that point and the excessive repairs they may require.

When ordering a new apparatus, it should include all the required ancillary equipment, which helps ensure this equipment also follows a regular replacement schedule. Further, it should remain fully equipped when the apparatus becomes a reserve unit. Whenever an apparatus is no longer in service, its ancillary equipment could replace other older pieces and become spare or be liquidated.

Standardization of fleet and ancillary equipment is becoming common in fire services. By doing so, the Department may realize savings in training hours and repairs as the variety of repair parts is lessened and reduces the time to train firefighters on the apparatus. Additionally, the firefighters could then operate any apparatus in the fleet if they have the same chassis and pump. Fleet standardization can be implemented by way of a by-law through the Council. Larger departments look at sole-source purchases with one manufacturer in the long-term; these have advantages.

Ancillary equipment such as hoses, nozzles, chainsaws, circular saws, extrication tools, SCBA, ventilation fans, foam equipment, etc., could also be standardized. Again, there are savings in repairs and time required for training.

For the most part, the ATFD is well-equipped with pumper trucks, rescues, and tankers. It also appears that there is a sufficient level of apparatus and equipment to meet the general needs

of the Department. The Department should monitor the growth within areas of the Township not supported by water supply infrastructure to consider obtaining another large-capacity tanker. A good practice is the identification of replacement schedules in the capital forecast for the fire trucks.

4.2.2 FUS – Vehicle Replacement Recommendations

The FUS replacement schedule allows up to a 20-year replacement cycle, in which the fire vehicle can be a second-line response status. Due to the population density outlined in Table #8, when compared to FUS recommended replacement schedule, EMG recommends that all first-line units be replaced by a new or younger apparatus when it reaches 20 years of age and, dependent on its condition and whether it is needed, become a spare for the next five years. Fortunately for ATFD, the need for spare apparatus is minimal as the rescues are pumper-rescues and can operate as a pumper if the main pumper is out of service. There is a lack of a spare tanker, which the Department should consider having when a new station opens. Currently, there is no room in the stations to accept another vehicle.

FUS definition of *first line, second line,* and *reserve* is:

- First-line is the first fire truck utilized for response at the fire station.
- The second line is the next truck to use if the first line unit is at a call.
- Reserve is the vehicle kept in the fleet to be put into service if a first-line or second-line vehicle is out of service.

FUS assigns ratings, and reviewing population densities is part of the assignment process. The following is Township's population densities based on the 2021 Statistics Canada data.

TABLE #8: POPULATION DENSITY OF URBAN CENTRES OF THE TOWNSHIP OF ADJALA-TOSORONTIO

Township of Adjala-Tosorontio [30]		
Area	Population	Population Density
Township of Adjala-Tosorontio	10,989	29.6 / km²
Urban Areas		
Everett	570 (100 less than in 2016	991.8 / km²

The Township's overall population density is less than 1,000 person / km², and the ATFD should reference the *Small Communities and Rural Centres* column as a guide.

TABLE #9: FUS VEHICLE REPLACEMENT CHART[31]

Apparatus Age	Major Cities [3]	Medium Sized Cities [4] or Communities Where Risk is Significant	Small Communities [5] and Rural Centres
0 – 15 Years	First Line Duty	First Line Duty	First Line Duty
16 – 20 Years	Reserve	2nd Line Duty	First Line Duty
20 – 25 Years [1]	No Credit in Grading	No credit in grading or reserve [2]	No credit in grading or 2nd Line Duty [2]
26 – 29 Years [1]	No Credit in Grading	No credit in grading or reserve [2]	No credit in grading or reserve [2]
30 Years +	No Credit in Grading	No Credit in Grading	No Credit in Grading

[30] Profile table, Census Profile, 2021 Census of Population - Adjala-Tosorontio, Township (TP) [Census subdivision], Ontario (statcan.gc.ca), Accessed November 6, 2023, https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=Adjala%2DTosorontio&DGUIDlist=2021A00053543003&GENDERlist=1,2,3&STATISTIClist=1,4&HEADERlist=0

[31] "Insurance Grading Recognition of Used or Rebuilt Fire Apparatus," Fire Underwriters Survey, Accessed October 25, 2023, file:///C:/Users/EmergencyMGT/Downloads/FUS-TechnicalBulletin-InsuranceGradingRecognitionofUsedorRebuilt%20(3).pdf

[1] All listed fire apparatus 20 years of age and older are required to be service tested by a recognized testing agency on an annual basis to be eligible for grading recognition (NFPA 1071).

[2] Exceptions to age status may be considered in small to medium-sized communities and rural centres conditionally when the apparatus condition is acceptable, and the 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 kilometre; 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 kilometre, AND
- 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 kilometre; AND does not have a population more than 1,000.

Before setting their insurance rates, insurance companies will study FUS reviews. Provided the Department adheres to the recommended replacement timelines through an approved capital replacement schedule, it will retain its fire rating for vehicle replacement.

By replacing vehicles on schedule, the Township is demonstrating due diligence toward ensuring a dependable response fleet for ATFD and the community it serves. This measure will keep the community's fire rating in good standing, which can also reflect on commercial and residential insurance rates.

More and more fire services, like the Township of Adjala-Tosorontio, are no longer operating stand-alone rescue apparatus but instead using more versatile pumper-rescues or a smaller rapid response type of apparatus. A rapid response vehicle is similar in design to an urban interface wildland apparatus. Rapid response apparatuses are versatile and cost-effective; some models can carry up to five firefighters.

One piece of apparatus that ATFD does not have in its fleet is an aerial device. These specialized and costly apparatus are valuable during a fire or rescue situation. In 2023, the costs have increased to be cost-prohibitive for many municipalities, and the timeline to receive it has doubled. Pre-COVID, and aerial was approximately $1.2 to $1.5 million and now ranges from $1.75 to $2.25 million and takes up to four years for delivery.

For the number of times ATFD would use it as an aerial device, it would be more cost-efficient to enter into a response agreement with the Town of New Tecumseth, which has two aerials – one in Alliston and the other in Tottenham. The Town of New Tecumseth may also request that ATFD cover the associated costs when it responds, which ATFD could recover by including the fee in the Fees and Charges By-law at full cost recovery.

4.2.3 NFPA – Vehicle Replacement Recommendations

The NFPA 1911 Standard for Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus is a standard that supports a regular replacement schedule of fire vehicle*s*. Like the FUS recommendations, this standard includes guidance on retirement criteria for fire apparatus. It recommends replacing all front-run vehicles on a 15- to 20-year cycle, depending on the community size. These replacement recommendations are for fire vehicles with pumps. Most communities refer to their municipality's vehicle replacement policies for general-purpose fire department vehicles.

While there's no national standard that legally requires the replacement of emergency vehicles, it's crucial to prioritize their replacement before they become unreliable. Postponing this process is ill-advised as it will inevitably lead to higher maintenance costs for the apparatus and could negatively impact insurance costs, considering the fire department's FUS rating.

ATFD operates well-equipped pumpers, rescues, squads, and tankers. There also appears to be enough support vehicles and equipment to meet the general needs of the Department. The Township of Adjala-Tosorontio Council has consistently shown strong support for the ATFD and its apparatus requirements, considering the population size and tax base. Replacement schedules for fire trucks are already included in the capital forecast. It is worth mentioning that some fire departments opt for a 25-year replacement cycle for their tanker trucks due to limited use and mileage on these specific units. However, it's important to clarify that EMG is not recommending that ATFD adopt this practice.

During a review of the apparatus, EMG noted that both tankers are coming to the end of their lifespan; one is due for replacement in 2023, and the other in 2025. It would be wise for Council to advise the Fire Chief to acquire pricing for two tankers simultaneously, as there usually is a cost savings when ordering multiple vehicles. This process should begin immediately as the Everett tanker will be close to 25 years of age when the new one arrives. There are cost savings when acquiring stock apparatus, but the only downfall is it may not have all the specifications ATFD would like. Depending on what they are, the manufacturer can make some alterations to the vehicle to meet the purchasing department's needs.

Concerning vehicle replacement and refurbishment, the industry standard for the design and replacement of vehicles is the NFPA 1901; in Canada, departments also use ULC S-515-12. ATFD

endeavours to meet ULC specifications but has not always met the NFPA standards. Other related FUS and NFPA standards exist for vehicle design, replacement, and refurbishing.

When ordering a new apparatus, a good practice is to include all of the required ancillary equipment, which helps ensure this equipment also follows a regular replacement schedule. Further, it remains fully equipped when the apparatus becomes a reserve unit. Many fire services donate decommissioned apparatus equipment to First Nations fire departments or organizations for distribution to third-world countries.

As mentioned, ATFD has no spare fire apparatus available as this is difficult to achieve due to the lack of space to keep it.

While drawing the specifications of a new apparatus, an Apparatus Committee (the Committee) should be organized, including establishing its Terms of Reference. Members of the Committee should include the District Chief of the station receiving the new apparatus, a Captain, and firefighters who may have a vested interest in the specifications. By having a committee, all aspects of the specifications will be considered, including the purpose and function of the apparatus, the power plant, pump size, compartment sizes, ancillary equipment, hose loads, chassis safety features, including airbags and health and safety concerns such as clean cab technologies and enhanced chassis stabilization to lessen the risk of a rollover.

Some municipalities in Ontario are choosing to lease some of their fleet vehicles, such as cars, vans, and pick-up trucks. Lease payments can be more manageable and less impactful on their budgets. At the end of the lease agreement, they return the vehicle and pick up a new replacement. Taxes are paid monthly on the cost of the lease instead of paying a lump sum at the time of delivery. Maintenance costs are lower as the vehicle comes with a minimum of a three-year warranty, which impacts the budget to a lesser degree.

In the United States, departments have turned to leasing their fire apparatus on a five to ten-year lease when they are replaced by new apparatus when the lease ends. This practice reduces costly repairs of aging equipment and one-time capital costs. Several Canadian fire services are exploring lease options or purchasing the returned fire truck from the United States at a fraction of the cost of a new one.

TABLE #10: LIST OF APPARATUS OPERATED BY ATFD

Apparatus Identification	Type of Apparatus	Make	Year In Service	Pump Size Tank Size Foam Capacity	Cab /Chassis Style	Replacement Year
Brush 10	Wildland	Ford	2008	2,000 l/m (500 GPM), with 1,135 litre water tank (300 US Gallon), No foam capacity can pump and roll	Conventional cab F-450 chassis carries two personnel	2031
Squad 11	Pumper-Rescue	Spartan/Crimson	2010	6,000 l/m pump (1,250 GPM), 4,550 litres of water (1,000 gallons), and 136 litres of Fireade foam (30 gals)	Custom cab carries six personnel	2030
Pump 12	Pumper	HME/Dependable	2018	6,000 l/m pump (1,250 GPM), 4,550 litres of water (1,000 gallons), and 136 litres of Fireade foam (30 gals)	Custom cab carries six personnel	2038
Tank 14	Tanker	Sterling/Dependable*	2005	It has two portable pumps, no midship pump, 11,365 litres of water (2500 gal), no foam	It is a conventional cab that carries two personnel.	2025
Rescue 16	Rescue	Dodge/Dependable	2021	There is no pump or water onboard.	It is a conventional four-door crew cab that carries four firefighters.	2041
Utility 17	Pick-up/Wildland	Chevrolet Silverado	2007	Wildland skid load with a small pump and 455 litres of water (100 gal)	A conventional cab that carries four personnel	2024

Apparatus Identification	Type of Apparatus	Make	Year In Service	Pump Size Tank Size Foam Capacity	Cab /Chassis Style	Replacement Year
Squad 21	Pumper-Rescue	Crimson	2010	6,000 l/m pump (1,250 GPM), 3,000 litres of water (659 gallons), and 136 litres of Fireade foam (30 gals)	Custom cab carries six personnel	2030
Pump 22	Pumper	Sterling/Fort Garry*	2006	5,000 l/m pump (1,050 GPM), 3,000 litres water tank (659 gallons), no foam	Conventional cab that carries three personnel	2026
Tank 24	Tanker	International/Dependable	2003	Portable pump, 9,500 litres of water (2,089 gallons)	Conventional cab that takes two personnel	2023
Rescue 26	Rescue	Dodge/Dependable	2021	There is no pump or water onboard.	It is a four-door crew cab that carries five personnel.	2041
Utility 27	Pick-up	Chevrolet Silverado	2018	There is no pump or water onboard.	It is a four-door crew cab that takes five personnel.	2033
Ranger 2	Utility Terrain Vehicle (UTV)	Polaris	Unknown	Unknown	It carries two personnel.	Unknown
Car 1	Pick-up	Chevrolet Silverado	Unknown	Unknown	It is a four-door crew cab that takes five personnel.	Unknown

Note: There is a history of Sterling vehicles catching fire, and ATFD should monitor publications in the event any service bulletins are issued.

4.3 Damage of Salt Brine

Over the last few years, municipalities have been using salt brine on the roads in the winter to reduce the adhesion of snow and ice to road surfaces. This mixture is causing significant damage to the fire apparatus and advancing the rusting of the vehicle's body. Once the frame rail of the apparatus's chassis begins eroding, it may split in time, creating costly repairs, and sometimes making the vehicle un-roadworthy. ATFD should have the underbody of every fire apparatus treated annually with an anti-rusting agent to slow the rusting process and reduce the repair costs associated with this issue. At the same time, have electrical connections on the pump panel and apply a corrosion inhibitor.

4.4 Maintenance & Equipment

During the review, a program was in place for small equipment testing and evaluation. All equipment, such as ladders, breathing apparatus, small engines, ropes, and hoses, are tested annually, or based on manufacturers' recommendations.

- NFPA 1932 Standard identifies the type and frequency of testing for ground ladders.
- NFPA 1983 outlines the testing process for life safety rope.
- NFPA 1914 outlines testing for aerial devices.
- The *Health and Safety Act* Section 21 guidance notes that all equipment workers use must be in good condition.

ATFD ensures that testing, inspections, and maintenance are carried out for the safety of personnel while providing the equipment is in a state of readiness through scheduled crew checks of the vehicles.

4.5 Equipment

Tracking the completion of annual testing in the asset management program should be a fire department's priority to ensure equipment functionality for the front lines. This tracking capability allows the fire department to confirm that apparatus and equipment testing schedules get completed while minimizing the unavailability of frontline apparatus. ATFD does not check and inspect chains or E-tools (battery-operated extrication tools) annually.

As discussed in Section 3, an ever-increasing number of firefighters are diagnosed with cancer yearly. A contributing factor to their illness is the contaminants that adhere to the bunker gear during firefighting operations. After a fire, ATFD's bunker gear is cleaned at Station 1 to reduce this risk. Only the Everett station has commercial washing machines for this cleaning. During this time, the firefighter requires replacement bunker gear until their gear returns from

cleaning. ATFD has a good stock of spare equipment for firefighters in various sizes. Ensuring that the cleaning of the ensemble is a high priority after fires and that firefighters have access to properly fitting bunker gear during the cleaning process assists ATFD in meeting its goals within its decontamination and hygiene program.

Spare Bunker Gear

When used for interior structural firefighting, bunker gear has a life span of 10 years as stated in NFPA 1851, *Standard on Selection, Care and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*.

In 2023, NFPA began consolidating its many Standards to reduce its numbers. ATFD should be aware that NFPA 1970 is one of the new Standards that addresses bunker gear and SCBA. It is known as the NFPA 1970 *Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel and Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS).*

Foam Concentrate

An essential tool in fighting fires that involve alcohol-based products is foam. Foam develops a covering layer over the burning product and assists in smothering the flames. The Federal government recently banned forever chemicals in foam concentrate, such as fluorinated aqueous film foams, to suppress flammable liquid-type fires to fluorine-free foams. The reason for this is that the forever chemicals are carcinogens. ATFD must ensure none of its foam

concentrates contain these forever chemicals. ATFD has a cache of spare foam in each station. If they are not already, the Department should become a member of the local co-op of fire departments with access to the foam stored at New Tecumseth Fire Rescue.

Respiratory Program

Even though ATFD has SOGs to do with SCBA and FIT testing, it lacks a dedicated Respiratory Protection Program compliant with Section 21, Guidance Note 4-9, Respiratory Protection Program. In 2018, the CSA Standard CAN/CSA Z94.4 Selection, Uses and Care of Respirators mandates that any organization using respirators must have a program that ATFD does not. The Self-Contained Breathing Apparatus (SCBA) is in good condition and was replaced in 2020 and uses MSA G1™ units. Consider interoperability with fire service partners, such as neighbouring fire services, while procuring new SCBA. Each firefighter is assigned a face mask. This practice ensures a more hygienic and proper fit. ATFD completes the FIT testing per the regulation, using a shared FIT testing appliance, including N-95 masks.

When developing a Respiratory Program, consider the inclusion of the following:

- Mention that bi-annual FIT testing is mandatory, and failing to complete it will prevent the firefighter from wearing respiratory equipment until completion of the test.
- Include the requirement for air sampling of each compressor every six months, and the results are to be posted on the side of each compressor and inserted in the respiratory program document.
- Include an inventory list of all SCBA, all air bottles, including those on the cascade systems, their hydrostatic test dates and retirement dates, and a list of all SCBA masks with an identification number and assigned to whom.
- SC BA requires annual bench testing, and these records should also be in the document.
- Include a record of when the air in every SCBA bottle is changed, which must occur every three months. Compressed air becomes stale over time.
- Include only respirators in service with ATFD in the document.
- Reference NFPA 1852, *Standard of Selection, Care and Maintenance of Open Circuit Self-Contained Breathing Apparatus (SCBA), 2019 Edition*. Now known as NFPA 1970.
- Record keeping is paramount when performing any repairs to the SCBA, and doing so complies with NFPA 1852 and should identify the individual who maintains it.
- A few firefighters at each station with a cascade system should be responsible for documenting FIT testing, air monitoring and air changes.

- The document needs to reference CAN/CSA Z94.4-18.
- The document should reference the new CSA Z-94.4.1:21 *Standard for Filtering Respirators in Canada.*[32]
    - *This standard mirrors NIOSH requirements and addresses specific needs that arose during COVID-19.*
    - *It excluded gas/vapour and CBRN filtering respirators, such as:*[33]
        - *Self-contained breathing apparatus (SCBA)*
        - *Gas masks*
        - *Chemical cartridge respirators*
        - *Special use respirators and*
        - *Closed-circuit escape respirators.*

4.6 Asset Management Program

Fire Administration has an established asset management program and a master equipment life-cycle plan to ensure that equipment replacement is occurring where applicable. It is a common practice to tie this equipment to the parent apparatus. ATFD, like many other departments dispatched by Barrie Fire, uses the Firehouse Record Management program with an asset management section. Unfortunately, before long, the parent company that owns the program will no longer support the system, leaving each Department needing to acquire a new program. Fire departments must budget between $55,000 and $100,000 in 2024 to purchase the new program. The final price depends on the features the host fire department wishes to include.

Many pieces of equipment have a predetermined life span as established in the NFPA Standards and/or the OH&S Section 21 Guidance Notes. When it comes to the end of the life span, the items must be decommissioned, replaced with new things, and then disposed of to ensure any other outside interests could not use them for liability reasons. The asset management program should operate to trigger notifications when an item is approaching the end-of-life span, and

[32] CSA Z94.4.1:21 | Product | CSA Group, Accessed November7, 2023, https://www.csagroup.org/store/product/2429470/

[33] Levitt-Safety | What's a CA-N95? Understanding the new CSA Z94.4.1:21 standard for respirators in Canada, Accessed November 7, 2023, https://www.levitt-safety.com/blog/can95-respirator

plans should be in place for replacement (i.e., identified in the budget). Some systems do not notify the Department when maintenance or testing is required.

4.7 Generators

There is a lack of an automatic backup generator at the stations for when there is a power interruption. ATFD currently relies on portable generators that may be placed in service to provide some power to the station. The downfall of portable generators is that firefighters must attend the fire station if there is a power failure, move the generator into place, start it, and then connect a limited number of items. The downsides of using portable generators are their limited power supply and the fact that extension cords must be laid on the floors, creating a trip hazard. A portable generator will not power the entire building without the capacity to do so, in addition to the proper transfer switches and connections.

ATFD needs to install an automatic emergency generator at each station and, once in place, ensure annual maintenance takes place on the units. Generators require weekly operational exercises to prevent corrosion from forming in the arbours, and the engine remains in a state of readiness.

4.8 Water Supply

4.8.1 Hydrants

The Township has fire hydrants installed in Everett, Lisle, Loretto, and Rosemont, totalling approximately 134 fire hydrants, many of which are unrated. It is unknown whether there are any private hydrants. No cisterns or dry hydrants are in use. It is also unknown whether the Township flow tests and services the hydrants it does have annually.

All fire hydrants should be inspected and tested as required in Articles 6.6.5.2. through 6.6.5.7. of Ontario Regulation 213/07 of the *Ontario Fire Code.* [34] NFPA 24, *Standard for the Installation of Private Fire Service Mains Their Appurtenances,* and NFPA 291, *Recommended Practises of Fire Flow Testing and Marking of Hydrants,* are followed. The Township should ensure hydrants are flushed annually and correctly identified per their flow rate. The failure of a hydrant to operate as required may present catastrophic results and expose the Township to the risk of litigation.

[34] SECTION 6.6 - WATER SUPPLIES FOR FIRE PROTECTION - Ontario Fire Code, Accessed August 26, 2023, https://ontariofirecode.com/ontario-fire-code/ontario-fire-code/division-b-acceptable-solutions/part-6-fire-protection-equipment/section-6-6-water-supplies-for-fire-protection/

The Township operates six water reservoirs, all inground. The minimum water main size permitted in the Township of Adjala-Tosorontio is 150 mm (6 inches). The Township sources its water supply via drilled wells.

When a fire hydrant is out of service, Public Works must complete repairs expeditiously, notifying the fire department of such breakages and the anticipated time to complete the required repairs.

During winter, the hydrants should have markers installed for accessible locations amongst snowbanks. It would aid firefighters year-round to locate a hydrant at night with reflectors installed on the 65mm ports that match the colour code of the flow rate of the hydrant.

4.8.2 Superior Tanker Shuttle Accreditation

Many fire services have attained their Superior Tanker Shuttle Accreditation, and in doing so, FUS reduces insurance rates within that community, representing small savings to the residents. The Tanker Shuttle Accreditation demonstrates that the fire department can aggressively attack rural fires, maintaining a consistently large volume of water flow in areas without fire hydrants. Part of the process is ensuring tankers have adequate, nearby locations to refill using regular hydrants, dry hydrants, cisterns, streams, or the lake (preferably with a dry hydrant).

ATFD's fire stations have not achieved this milestone. ATFD should research the advantages of acquiring certification. It may not be easy to sustain the required water supply during the testing with only one tanker in each station to achieve certification.

The ATFD should reference NFPA 1231, *Standard on Water Supplies for Suburban and Rural Fire Fighting,* to see what enhancements they can achieve in their operations.

Section 4: Recommendations

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
34	Purchase automatic standby generators for both fire stations to energize the entire building. Consider larger than required so they may be moved to the new stations when they come online.	Immediate (0 to 1 year)	$100,000	Having a reliable power source during an outage will ensure apparatus may respond without delay and firefighters may move about without the risk of injury.
35	The Township of Adjala-Tosorontio, during their 2025 budget deliberations, established a reserve for the construction of a new Station 1.	Short to Mid-Term (1 to 6 years)	$6.0 - $7.5 million.	Station 1 is at the end of its life span as a fire station. Several amenities not in the present station would be advantageous to have. Some for the reduction of the risk of contracting cancer. Delays will result in higher construction costs the longer they are delayed. Analyze the option of leasing a building for a fire station. Consider working in cooperation with a developer.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
36	Enter into a response agreement with the Town of New Tecumseth for them to respond with an aerial device into the Township of Adjala-Tosorontio.	Short-Term (1 to 3 years)	Staff Time With the additional standby fee of approximately $3,000.	A response agreement will ensure that an aerial device will respond to incidents in the Township of Adjala-Tosorontio without delay. The Fees and Charges by-law needs to include full-cost recovery whenever there is an aerial response from the New Tecumseth Fire Rescue into the Township.
37	ATFD needs to develop its Respiratory Program.	Short-Term (1 - 3 years) ongoing	Staff Time	This program is an industry standard and best practice. It also aids in ensuring the health and safety of firefighters when wearing respiratory protection devices.
38	The Township needs to direct those responsible for the maintenance of the hydrants to inspect all fire hydrants and test as required in Section 6.6 of the *Ontario Fire Code* and NFPA 291, *Recommended Practises of Fire Flow Testing and Marking of Hydrants*.	Short-Term (1 - 3 years	Staff Time plus costs	Doing so will ensure compliance with the Ontario Fire Code.

SECTION 5

Emergency Management

SECTION 5: EMERGENCY MANAGEMENT

5.1 An Emergency Planning Overview

Disaster planning in Ontario is well-rooted in the varied experiences of the many communities throughout this province that have endured disaster after disaster over the last several decades, and yet, despite the havoc that these events created, these same communities have continued to thrive and grow. In the face of the ever-looming and all-present threat of adversity, community resilience and recovery can be directly tied to one critical element – planning.

Ontario has had robust legislation in place for more than three decades concerning the level of emergency preparedness communities must undertake to prepare for natural and man-made disasters such as severe weather, train derailments, and so on. The Emergency Management and Civil Protection Act (EMCPA) is currently the foundational legislative component mandating emergency preparedness programming in all Ontario communities.

There are five components of emergency management represented within a comprehensive emergency management program.

Emergency Management in Ontario reflects the five equal and overlapping components of sound emergency planning: prevention, mitigation, preparedness, response, and recovery[35].

These five components form the basis of community safety in terms of disaster resilience, and the Province of Ontario has provided a solid framework for communities – large and small alike – to scale their programming to the needs of their stakeholders with the guidance of Emergency Management Ontario. In addition to the Act, Ontario Regulation 380/4 made under the Act sets out further clarifying requirements for various stakeholders.

The following is an overview of the EMCPA and its implications for municipalities[36]:

[35] Emergency Management Framework for Ontario, Emergency Management Ontario, Ministry of the Solicitor General, October 2021, accessed via the Internet, August 8, 2023.

[36] Emergency Management and Civil Protection Act, EMPCA, R.S.O. 1990, c. E. 9

- Purpose and Scope: The EMCPA aims to enhance public safety and protect property during emergencies or disasters. It establishes a framework for coordinating emergency management efforts across the province, ensuring a consistent and coordinated approach to emergency response.
- Emergency Management Structure: The Act establishes the Provincial Emergency Management Organization (EMO) as the coordinating body responsible for emergency management in Ontario. It provides oversight, guidance, and support to municipalities during emergencies.
- Municipal Emergency Management: Municipalities in Ontario are required to develop and implement emergency management programs in accordance with the EMCPA. These programs should include comprehensive emergency plans, identification of emergency management coordinators, and provision for public education and awareness.
- Municipal Emergency Plans: Municipalities must create emergency plans that outline strategies and procedures for responding to various types of emergencies. These plans should address preparedness, mitigation, response, and recovery efforts. The plans must be reviewed, tested, and updated regularly to ensure their effectiveness.
- Emergency Declarations: The Act empowers the Premier of Ontario, the Lieutenant Governor, or a municipal head to declare an emergency if they believe it is necessary to protect public safety or property. Emergency declarations trigger the implementation of emergency response measures and the activation of emergency operations centers.
- Municipal Emergency Operations Centers (EOCs): Municipalities are required to establish and maintain EOCs to coordinate emergency response activities within their jurisdiction. EOCs serve as central command centers where key personnel from various agencies can work together to manage and coordinate resources during emergencies.
- Emergency Powers: The EMCPA grants municipalities certain emergency powers, allowing them to take actions necessary for public safety and the protection of property during emergencies. These powers include the authority to control or limit access to certain areas, evacuate residents, and procure resources.
- Provincial Support and Assistance: The EMO provides guidance, training, and resources to municipalities to enhance their emergency management capabilities. It may also provide financial assistance for emergency response and recovery efforts, subject to certain conditions and criteria.
- Accountability and Reporting: Municipalities are required to report to the EMO on their emergency management activities, including updates on emergency plans, training,

exercises, and actual emergency responses. This ensures transparency, accountability, and the sharing of best practices.

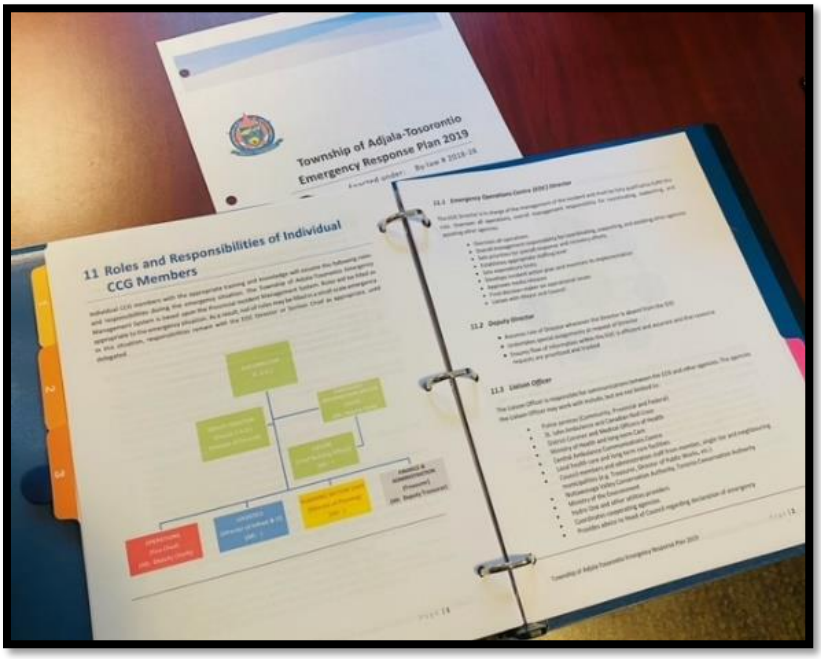
Under the Act, municipalities are required to conduct and report on several mandatory program elements on an annual basis. These program elements ensure municipalities are actively engaged in emergency management and preparedness efforts. The specific mandatory program elements include:

- Emergency Management Program Review: Municipalities must conduct an annual review of their emergency management program. This review involves assessing the program's effectiveness, identifying any gaps or areas for improvement, and updating the program as necessary.
- Emergency Plan Review: Municipalities must review their emergency plans annually. This review includes evaluating the plan's contents, procedures, and strategies for different types of emergencies. Any required updates or revisions to the emergency plan should be made based on the findings of the review.
- Training and Exercise Program: Municipalities are required to maintain an ongoing training and exercise program. This program ensures that emergency management personnel and relevant stakeholders receive appropriate training and that emergency response capabilities are regularly tested and evaluated. The municipality must report on the training and exercises conducted during the year.
- Public Education and Awareness: Municipalities are responsible for educating and raising awareness among the public about emergency preparedness. This includes disseminating information on emergency plans, procedures, and safety measures through various channels. Municipalities must report on their public education and awareness initiatives undertaken throughout the year.
- Emergency Management Resources: Municipalities must maintain an inventory of emergency management resources available within their jurisdiction. This includes identifying and cataloging resources such as emergency response equipment, facilities, and supplies. The municipality must report on the status and availability of these resources.
- Emergency Management Coordinator Designation: Each municipality is required to designate an Emergency Management Coordinator (EMC). The EMC is responsible for overseeing the municipality's emergency management activities and acting as the primary contact for the EMO. The municipality must report on the designation and role of the EMC.
- Incident Notification: Municipalities must notify the EMO of any significant emergency or potential emergency within their jurisdiction. This requirement ensures that the EMO is aware

of ongoing or potential emergencies and can provide necessary support and coordination. The municipality must report on incidents and notifications made during the year.

- Mutual Aid and Assistance: Municipalities are encouraged to participate in mutual aid agreements and arrangements with neighbouring municipalities or other organizations to enhance their emergency response capabilities. The municipality must report on any mutual aid activities undertaken during the year.

These mandatory program elements ensure that municipalities maintain an active and effective emergency management program, are prepared to respond to emergencies, and regularly review and improve their plans and capabilities. Reporting on these elements allows for accountability, evaluation, and continuous improvement of emergency management efforts within Ontario municipalities.



Township of Adjala-Tosorontio Emergency Planning Documents

5.2 Township of Adjala-Tosorontio – Current State

EMG has completed a thorough evaluation of the emergency planning program in place in the Township of Adjala-Tosorontio including a review of the following documents:

- By-law 2018-28 (Emergency Management Program)
- the emergency plan developed for the community,
- the "Hazard Identification and Risk Analysis" (HIRA) document,
- the Critical Infrastructure Inventory" (CII),
- By-law 2016-48 (Mutual Assistance between the County and Municipalities)
- By-law 2017-08 (The Provision of Social Services in an Emergency)
- By-law 2003-58 (Fire Department Mutual Aid Agreement)
- By-law 2012-05 (Mutual Assistance Agreement with the Department of National Defence)
- the "annual compliance" submission for each of the past five years,
- the response from the Ministry to these submissions,
- training activities conducted including annual exercises, and
- The ongoing supporting activities are being undertaken by Township staff.

EMG notes that the Critical Infrastructure Inventory contains incomplete or inaccurate information such as the location of the hospital, police, and paramedic facilities in the Township. Therefore, a fulsome review of this document is recommended. An updated list should include emergency contact information for each element contained in the list.

The Fire Chief is designated as the Community Emergency Management Coordinator (CEMC), and the Chief Administrative Officer and two District Fire Chiefs are designated as "alternates". Together, they form part of the community's program committee responsible for directing the community's emergency planning efforts. Other members of the program committee include the Mayor, the Director of Public Works and Infrastructure, the Director of Finance/Treasurer, the Director of Human Resources, and the Clerk.

Currently, the committee meets on an ad-hoc basis, and EMG recommends that these meetings be more regimented (at least twice annually) and that the committee establishes a formal work plan to ensure that the annual compliance requirements of the legislation are fulfilled.

Annual compliance with the legislation includes the necessity of exercising the Township's emergency plan, and the Township of Adjala-Tosorontio has done so by conducting the following training exercises over the past five years:

- 2018 – Functional exercise to test the opening of the Emergency Operations Centre.
- 2019 – Exemption due to actual flood in the community.
- 2020 - Exemption due to Pandemic emergency-related activities.
- 2021 - Tabletop exercise focused on a HazMat incident.
- 2022 – Tabletop exercise focused on a weather-related emergency.

EMG recommends that the Township consider more fully testing the Plan by developing a full-scale exercise within the next 1-3 years.

Importantly, Emergency Management Ontario has acknowledged that the program being conducted in the Township of Adjala-Tosorontio meets all of the requirements of the Act. EMG extends our compliments to all staff involved in the ongoing emergency planning activities for completing their emergency management duties while balancing heavy workloads in their primary roles in the community.

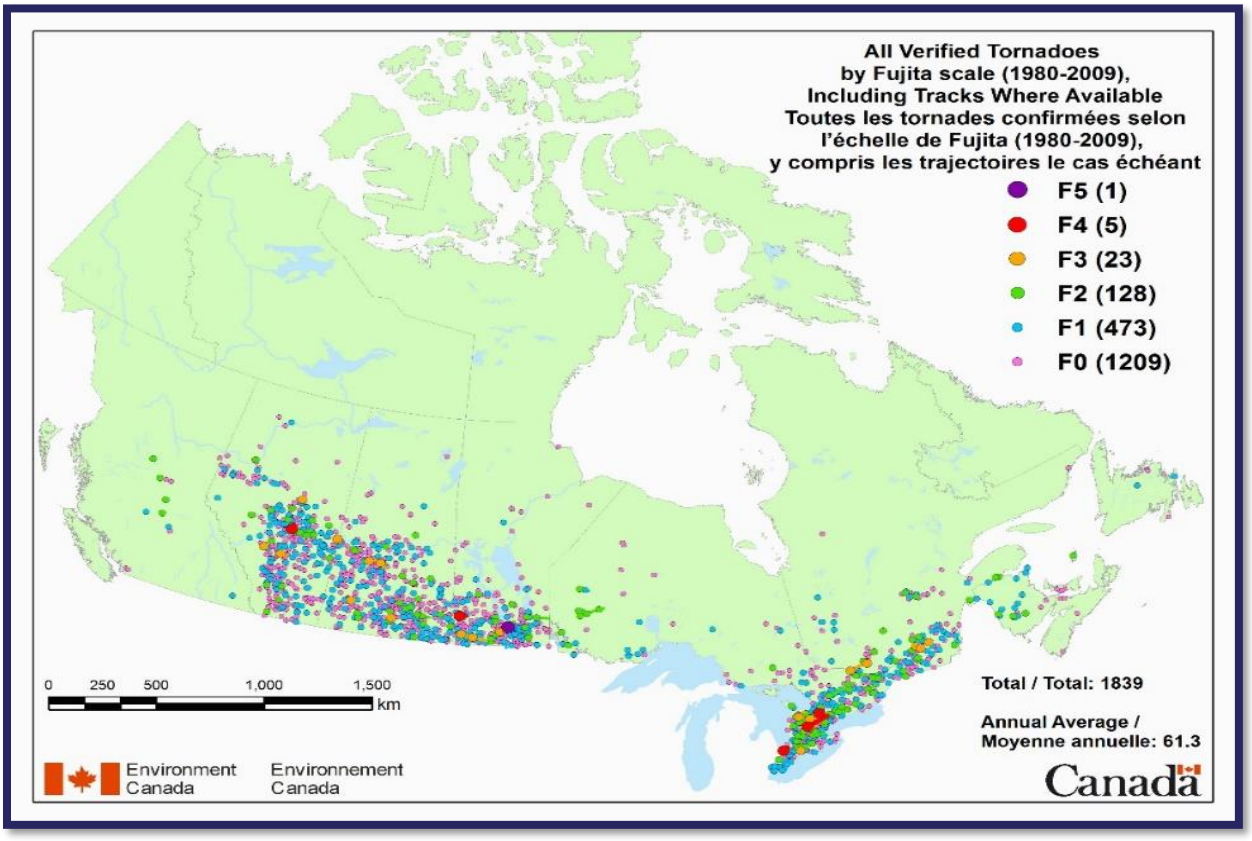
5.3 Actual Incidents, and Looming Threat Profile

Looking to the past for examples of actual disasters that have been declared as emergencies within the Township over the last decade, the recent COVID-19 Pandemic in 2020 and the aforementioned flood in 2019 figure prominently in the Township's history.

It must be noted that Central Ontario has long been in an area referred to as a "Tornado Alley" as reflected in the illustration that follows, and tornados remain prominent among the top eight "risks facing the Township. Locally, Adjala-Tosorontio and Barrie have both been subjected to these devastating weather events.

While tornadoes in Ontario might not be as frequent or intense as those in well-known tornado-prone areas like Tornado Alley in the United States, they have significant economic impacts. The extent of these impacts depends on various factors, including the intensity of the tornado, the areas it affects, and the vulnerability of the infrastructure and communities. Tornadoes can cause damage to buildings, vehicles, crops, and other property. They can disrupt transportation and power infrastructure, leading to business interruptions and economic losses.

FIGURE #20 – ENVIRONMENT CANADA'S ILLUSTRATION OF TORNADO ALLEY



The other risks identified by the Townships planning efforts include:

- Fires
- Severe winter weather (Ice, Hail, Sleet, Snow)
- Severe windstorm
- Extended Power Failure
- Flood
- Disease (Covid19, Influenza)
- Other emergencies lasting for more than 1 day

Fires present a significant risk in terms of frequency, and while these generally cause less widespread damage due in part to the efficiency of the fire department, they present an ongoing challenge to the community, nonetheless.

Fires that occurred in the Township.

The Critical Infrastructure Inventory and Hazard Identification and Risk Assessment documents that are required under the Act have been reviewed for completeness by the CEMC and program committee on several occasions and these continue to accurately reflect the risk profile. Reference should be made to the Community Risk Assessment recently completed for a slightly broader perspective of risks to the community.

Other Significant Risks to the Community

5.4 Large-Scale Incidents - The Incident Management System (IMS)

Interagency, multi-jurisdictional, multi-government, and multi-disciplinary are terms used when operating in a large-scale emergency environment.

The Incident Command System (ICS) is based upon best practices in Canada and the United States and is used for both small or large emergency and non-emergency planned events. It identifies roles and

responsibilities to improve resource and interagency communications for a common purpose. In the Province of Ontario, the ICS is known as the Incident Management System (IMS) and it has been adopted as the management system to be utilized during emergencies by Emergency Management Ontario guidelines.

During some emergencies, there is a likelihood of the IMS being expanded into a Unified Command. The type of incident, complexity, and location of an incident may require a Unified Command structure. The Unified Command "is a management structure that brings together the 'Incident Commanders' of all major agencies and organizations involved in the incident to coordinate an effective response while at the same time carrying out their own jurisdictional or functional responsibilities."[37]

The Emergency Operations Centre (EOC) is critical for providing coordination, resource management, communications, and critical assessments of the event with the Incident Commander. The strength of the IMS is that ensuring the safety of responders and other personnel is a priority and an effective use of resources or elimination of the duplication of services is achieved. Individuals who are expected to be part of the Emergency Operations Centre (EOC), including designated alternates, should have training in IMS.

A review of the related Township documents reveals that the IMS is well-integrated into local practices and procedures.

Typical Activity in an Emergency Operations Centre (EOC)

[37] Deal, Bettercour, Deal, et al, (2010) Beyond Initial Response, ICS, p.I-33.

A prominent multi-agency emergency response that illustrates the importance of the Incident Management System occurred on May 1, 2016, when a wildfire seven kilometers outside of Fort McMurray grew and became the worst wildfire incident in Canadian history with losses and economic impacts to the community of close to $9 billion.

2016 Fort McMurray Wildfire Incident(s)

There are four different levels of Incident Management training prescribed by Emergency Management Ontario. These are as follows:

- IMS 100: The awareness level training that introduces the participant to IMS topics and concepts.

- IMS 200: The awareness level training designed to help people function within the IMS. This level of training provides a greater depth regarding the functional areas and positions in the IMS.

- IMS 300: The level that is directed for supervisory functions and provides exposure to setting objectives, unified command, planning, demobilization, and termination of command. This level is focused on developing skills through practical exercises.

- IMS 400: The level that is directed for supervisory functions and is orientated to developing skills for complex incidents and the coordination of multiple incidents.

Many emergency incidents are managed routinely within the Township without activating the EOC and it should be noted that the EOC is activated only when an event is expected to expand in complexity and duration, requiring efficient coordination among departments or responding agencies.

5.5 Emergency Planning Training and Exercises

Being an active participant in an EOC activation and utilizing the IMS are skills that need to be exercised regularly. Several training options are identified as follows to assist the Municipality in planning and exercising an emergency plan activation annually.

EOC Activation: Planning for a practice activation of the primary and secondary EOC keeps staff oriented to their roles, and all staff members who are expected to have a role in the EOC should participate in these practice sessions.

Discussion-Based Exercise: In Discussion-Based Exercises, the primary intent is to have dialogue regarding the emergency plan, procedures, bylaws, and any policies that could impact an emergency. The discussion sessions are low-key, low-pressure, and a great tool for familiarization with plans, procedures, bylaws, and policies. The secondary intent of discussion-based exercises is to build confidence through familiarization amongst team players in the application of the plan. These discussion-based exercises are great tools to facilitate the learning process for the staff designated as alternates expected to fill a role in the EOC. Discussion-based training is a great way to orientate new staff or existing staff who have not had a real opportunity to familiarize themselves with the emergency plan or organizational plans, bylaws, procedures, and policies.

Tabletop Exercise: These exercises are low-cost and minimal stress, but preparation can require some time to create a scenario that is relevant to the municipality. A tabletop exercise is generally led by one facilitator, depending upon the complexity of the scenario. Tabletop exercises are great ways to identify gaps in plans, policies, and procedures in post-exercise discussions. To complete the exercise, an After-Action Report is completed to identify any shortcomings or deficiencies that need to be addressed.

Operations-Based Exercise: The primary intent is to deploy personnel and equipment in a drill, functional exercise, or full-scale exercise. The disadvantage of an operations-based exercise is that it requires a significant amount of time to plan and prepare for, as resources will be required from multiple agencies. Operations-based exercises generally reveal gaps and weaknesses in training, inter-agency communications, resource allocation, and operational procedures. Operations-based exercises include:

Functional exercises – These exercises can be complex with a high degree of realism and are used to test plans, procedures, and policies in the training scenario which is at a single site. These exercises are used by agencies to test their capabilities to perform multiple functions.

Full-Scale Exercises: A complex exercise that tests multiple agencies in a single scenario at multiple sites. These exercises are in real-time, highly realistic, and usually stressful for agency personnel participating in the exercise. A full-scale exercise can take from 6-10 months to prepare for and require a significant investment in resources and funds. Several facilitators are required to ensure safety and compliance with the storyline of the exercise. A full-scale exercise is developed with clear objectives to test multiple agencies. Upon completion of the exercise, a hot wash is conducted which is a formal discussion of the involved agency's performance during the exercise. An After-Action Report and a formal Improvement Plan are prepared and distributed that identify actions required to address and improve performance.

Though functional and full-scale exercises require more detailed planning and are staff-intensive, EMG recommends that the Township of Adjala-Tosorontio move to this next level of exercise as a logical "next step" in local program development. EMG notes that the Township does not have a dedicated budget line for "Emergency Planning" and recommends establishing a modest but dedicated budget.

5.6 The Impact of Climate and Land Use

There can be little doubt regarding the impact of climate on the world around us as we watch mainstream news reports about heat events throughout different parts of the world in the summer – flooding, drought, and wildfires. And in the winter – polar vortexes, torrential rain, increased hurricane activity, and severity. It's easy for the onslaught of this news to numb our sensitivity to these issues here at home.

It's not unusual for Canadians to talk about the weather – in fact, it's practically a national pastime. But in terms of emergency planning, the CEMCs – as community watchdogs - need to monitor the weather daily, relative humidity and dewpoints are the waypoints for safeguarding local impacts – open-air burning has long been regulated to some degree by the weather forecast. The early summer of 2023 saw fire bans in place for much of Central and Northern Ontario for a period that cannot be called "normal". Exceedingly dry conditions throughout June and July finally gave way to some moderating influences in August, but the weather was not "normal" in the context of recent experience.

EMG believes that this trend is a cautionary tale of things to come. Proactive weather monitoring – daily – is now part of every emergency manager's routine, and program committees need to be more agile than ever to adapt to changes that occur around us in real-time.

The recent wildfires that ravaged a small community in Hawaii also illustrate the impact that changing land use can have on a community.

Images from the Maui Wildfires, August 2023

Early indications point to the discontinued use of hundreds of hectares of land, formerly active agricultural use, that were left to "naturalize" creating a wildland-urban interface permitted to grow fallow as one of the more significant contributing factors to this incident.

5.7 Future Considerations

Though not a formal recommendation for change respecting the work being undertaken currently, EMG offers the following point for consideration as the community continues to grow and flourish.

Program Development and Diversification - The Fire Department currently has carriage of the bulk of the duties ascribed to the municipality under the Act and the Fire Chief currently serves as the "Community Emergency Management Coordinator" (CEMC), and two of the District Fire Chiefs are currently designated at the "Alternate Community Emergency Management Coordinator" (Alternate CEMC). Their expertise in command and control of emergencies is finely tuned and honed continually by their response to all manner of "small" emergencies within the Township and their intimate involvement with their mutual aid partners in the fire sector. This same direct involvement, however, means that they will be among the first to respond to any larger emergency that might fall under the definition of a "community emergency" such as a train derailment. When this occurs, it will be extremely difficult to extricate themselves from the direct mitigation duties associated with that particular response and fall back to their role as CEMC within the emergency control group. Additionally, individuals gain experience and expertise in a role by performing a role, and therefore it may be advantageous for the Township to consider appointing another senior staff member as the CEMC (i.e. – the Director of Infrastructure and Development, or the Municipal Clerk). Rotating this position also serves to develop staff individually and create a larger roster of trained persons who can step into this role when the need arises, thereby creating redundancies which can prove advantageous in the long term.

Section 5: RECOMMENDATIONS

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
39	EMG recommends that the Emergency Management Program Committee (EMPC) establish regular, bi-annual meetings that are "minuted" and reported to Township Council.	Short-Term (1-3 Years)	Staff Time	To bring more focus and awareness to the emergency planning activities that are occurring in the Township.
40	EMG recommends that the Emergency Management Program Committee establish an annual work plan to ensure that activities necessary for compliance with the EMPCA are conducted and completed promptly and that this plan includes a fulsome review of the Critical Infrastructure Inventory.	Short-Term	Staff Time	To bring clarity to the work associated with the annual compliance initiatives under the EMPCA and proactively assign work items to individuals for accountability purposes and update the CII as this forms an essential part of the community's plan.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
41	EMG recommends that the Town move to conduct a functional or full-scale emergency exercise within the next 1-3 years as the next logical step in program development and to test the municipal plan and community resources more fully.	Short-Term (1-3 Years)	Staff Time	To identify shortcomings in the existing plan and identify opportunities for improvement.
42	EMG recommends that a budget line be established specifically for "Community Emergency Planning Initiatives" within the annual operating budget.	Short-Term (1-3 Years)	To Be Determined.	To allow broader community education efforts and establish a funding pool for exercise design and implementation.

Section 6

Mutual Aid, Automatic Aid & Fire Service Agreements

SECTION 6: MUTUAL AID, AUTOMATIC AID, & FIRE SERVICE AGREEMENTS

6.1 Mutual Aid Plan & Fire Service Agreements

Within the fire emergency service, mutual Aid is an agreement among emergency responders to lend assistance across jurisdictional boundaries. This response occurs typically due to an emergency that exceeds local resources, such as a disaster or a multiple-alarm fire. Mutual Aid is often an unplanned resource request when such an emergency occurs. It may also be a continuous formal standing agreement or cooperative emergency agreement that ensures resources are dispatched from the nearest fire station, regardless of which side of the jurisdictional boundary the incident is on. Agreements that send the closest resources are regularly called *automatic aid agreements*.

Mutual Aid, automatic Aid, and fire protection agreements are programs used to:

- Support a community's fire department at times when local resources are exhausted.
- Offer quicker response coverage to areas closer to a bordering fire department's response area than the host department.
- Create an automatic response by bordering fire departments to properties closer to their fire stations than the host fire department.
- Mutual Aid is intended to be reciprocal and not meant to supplement shortages in day-to-day operations.

An automatic and mutual Aid plan and program provides the framework by which assistance can be provided legally by all parties identified within the plan. The Township of Adjala-Tosorontio is a member fire department of the County Simcoe Automatic and Mutual Aid Plan and Program. It has entered into various service agreements with the following partners:

- By-Law No. 98-37 – Automatic Aid Agreement with the Township of Adjala-Tosorontio providing fire services into the Township of Mulmer.
- By-Law No. 98-38 – Automatic Aid Agreement between the Township of Clearview and the Township of Adjala-Tosorontio for Clearview Fire and Emergency Services to provide fire protection in the Township of Adjala-Tosorontio.
- By-Law No. 03-58 – Automatic Aid Agreement with the Town of New Tecumseth to provide fire protection in the Township of Adjala-Tosorontio.

- By-Law No. 06-48 - By-law permits the Adjala-Tosorontio Fire Department to be a member department of the County of Simcoe Automatic and Mutual Aid Plan and Program.
- By-Law No. 12-05 – Mutual Aid Agreement through a Memorandum of Understanding (MOU) between Canadian Forces Base Borden to reciprocate fire services with the Township of Adjala-Tosorontio.
- By-Law No. 18-31 – To enter into a response agreement between the Township of Adjala-Tosorontio, The County of Simcoe and the City of Barrie for the provision of a multi-jurisdictional, multi-disciplinary hazardous materials (HAZMAT) incident response team. The actual agreement is through a MOU.
- By-law 19-28 – An agreement between the County of Simcoe and the Township of Adjala-Tosorontio for Wildland Firefighting.
- By-Law No. 22-101 – Response Agreement through an MOU for the City of Barrie to provide Special Operations Services to the Township of Adjala-Tosorontio.

It is best practice to review all Automatic Aid, Response Agreements and Memorandum of Understandings annually to ensure they remain current and adjusted accordingly to meet the ever-changing needs of the municipality.

6.2 Mutual Aid

The Provincial Automatic and Mutual Aid Plans and Program is a borderless and reciprocal agreement allowing fire departments to assist other fire departments who have overstretched their local resources in dealing with emergencies. Under this plan, assistance is at no direct cost to the department requesting the assistance. Section 7 of the *FPPA*, 1997, S.O. 1997, c. 4 provides the authority for the Fire Marshal to appoint Fire Coordinators who establish and maintain the Automatic and Mutual Aid Plan and Program. A plan has been drawn in the County of Simcoe and is known as the County of Simcoe Automatic and Mutual Aid Plan and Program. The Township of Adjala-Tosorontio's Council has approved ATFD's participation in the Automatic and Mutual Aid Plan and Program through By-law 06-48. This by-law, while active, is 17 years old and needs reviewing and updating for Council's approval.

EMG notes that in support of mutual aid efforts across the Province of Ontario, the OFM requires fire departments to update their equipment lists on what apparatus they have and could be available for mutual aid purposes. However, it is incumbent upon each participating fire department to also have a clear understanding of what resources are available from its neighbouring fire department(s) and how to access these during times of need.

The intent behind a mutual aid agreement is that it be reciprocal. When one fire department calls upon a neighbouring fire department for tankers to assist at a large fire, the receiving department would have tankers available when their neighbour calls upon them for assistance. When a fire department requires a specialized piece of equipment that a neighbouring fire department has in service, such as an aerial device or marine vessel, but they do not have one, it should not be considered mutual Aid as the request is not reciprocal. In these instances, having a response agreement between the two municipalities and their fire departments would be appropriate. Doing so will eliminate any delays in responding and will eliminate the need for any questions about its legitimacy. Some response agreements include a stand-by fee and full-cost recovery for costs incurred by the responding department, such as the firefighter's pay and the apparatus. These charges are often determined based on a flat hourly rate.

6.3 Automatic Aid and Fire Protection Agreements

During this review, EMG noted that ATFD has positive working relationships with the other fire departments in the surrounding jurisdictions, including CFB Borden. CFB Borden is not a municipality but a military base, and it is not governed and bound by the same laws as the surrounding jurisdictions. The Base is not a member of the County of Simcoe and, therefore, not eligible for mutual aid unless by a response agreement or Memorandum of Understanding. Such reciprocal mutual aid agreements are in place with the Townships of Adjala-Tosorontio and Essa.

Automatic aid and fire protection agreements exist between fire departments and communities when time and resources are factors in responding to an emergency. These agreements often identify the personnel and equipment that will be dispatched automatically in certain conditions. These agreements usually identify the geographic areas where the responding resources provide fire protection.

These agreements are like the Mutual Aid Plan and Program but differ as there is an expectation that a call for service will occur regularly and anticipated. The expected level of service provision is typically in these agreements. Some examples are strictly for structure fires, whereas others may be an all-encompassing service. The Municipality's Council typically finalizes these written agreements through a by-law.

The benefits of an automatic aid agreement, in contrast to a mutual aid agreement, mean that the necessary equipment and resources will automatically be dispatched for suppression services, rescue, and other identified emergencies that fall within the parameters of the automatic agreement, thereby saving critical time. These automatic aid agreements often involve a reciprocal arrangement between two or more agencies. Typically, fire protection agreements, in contrast, follow this same model in terms of response. However, the

arrangement is often weighted more heavily towards one agency providing a service rather than being focused on reciprocity.

The Fire Protection and Prevention Act of Ontario defines the difference between automatic aid and response agreements as follows:[38]

By definition, *Fire Protection Services* includes:

> *(a) fire suppression, fire prevention and fire safety education,*
>
> *(b) mitigation and prevention of the risk created by the presence of unsafe levels of carbon monoxide and safety education related to the presence of those levels,*
>
> *(c) rescue and emergency services,*
>
> *(d) communication in respect of anything described in clauses (a) to (c),*
>
> *(e) training of persons involved in providing anything described in clauses (a) to (d), and*
>
> *(f) the delivery of any service described in clauses (a) to (e);*
>
> *Part II, Responsibility Fore Fire Protection Services*, states:

Services outside Municipality

(5) A municipality may, under such conditions as may be specified in the agreement, enter into an agreement to,

(a) provide such fire protection services as may be specified in the agreement to lands or premises that are situated outside the territorial limits of the municipality; and

> *(b) receive such fire protection services as may be specified in the agreement from a fire department situated outside the territorial limits of the municipality.*

Automatic Aid Agreements

(6) A municipality may enter into an automatic aid agreement to provide or receive the initial or supplemental response to fires, rescues, and emergencies

EMG has reviewed the numerous agreements and observed that while they are still in force, all require updating. By-law 98-38 needs to analyze the response zones and consider expanding the Clearview Fire and Emergency Services region to provide fire protection in the Township of

[38] SO 1997, c 4 | Fire Protection and Prevention Act, 1997 | CanLII, Accessed October 21, 2023, https://www.canlii.org/en/on/laws/stat/so-1997-c-4/latest/so-1997-c-4.html

Ajala-Tosorontio. Their stations can arrive in an area not part of the agreement quicker than ATFD can.

The Township of Clearview's fire department would better serve the areas on the Township's northern boundary as it has two stations closer to that area than ATFD. The coverage area would be from Centre Line Rd to the Boundary with CFB Borden and south to the 30 Sideroad Tosorontio. The following table identifies the distance and travel time under ideal conditions.

From	To	Kilometres (Miles)	Travel Time
Adjala-Tosorontio Fire Department			
Everett	Glencairn	16 km (9.9 mi)	13 minutes
Loretto	Glencairn	35 km (21 mi)	26 minutes
Clearview Fire & Emergency Services			
Creemore	Glencairn	11.6 km (7.2 miles)	9 minutes
New Lowell	Glencairn	8.2 km (5.1 mi)	8 minutes

While an agreement (By-law 98-38) exists for a small portion of this region, it needs enlargement. The exiting by-law has been enforced since 1998 (25 years) and needs updating.

The effort to maintain these relationships benefits the citizens served, protects lives, homes, and infrastructure, and keeps firefighters safe. Each agreement should cover services each fire department provides in providing fire protection for areas of the other's municipality.

The standard review process seeks to identify considerations for improvements that support and strengthen the provision of fire protection services. That said, all parties generally achieve greater clarity by following a standard template around wording and structure for the various agreements.

All agreements should state that matters of Fire Prevention and Public Education are the responsibility of the Authority Having Jurisdiction (AHJ). In this instance, the contracts should define the AHJ as:

"AHJ means the municipality responsible for providing services to its residents."

It is also in the best interest that fire departments in a fire protection agreement, automatic aid agreement, or mutual aid plan identify annual training sessions where firefighters get acquainted with the equipment of other departments. These combined training sessions also build the working relationship and morale between fire departments. Automatic aid and protection agreements bring fire departments together to work as a team for the benefit of

the public. Without combined training sessions to practice as a team, the team cannot effectively function, and breakdowns can occur.

Another benefit of the mutual training session is the identification of gaps in equipment, communications, or training before a real emergency. When the current agreements are revised and updated, a defined commitment includes that regular training will take place and designates the position accountable for completing this task. In addition, the agreements should lay out a commitment to ongoing meetings with senior fire department leadership. These mutual aid/automatic aid meetings allow fire chiefs and chief officers from the participating departments to discuss issues or gaps in response protocols and to identify a collaborative path forward that enhances fire protection for all participating agencies and communities. As such, mutual Aid and other required agreements, while still in force, need updating to ensure they meet the needs of the Township of Adjala-Tosorontio residents.

6.4 Wildland Firefighting Agreement

The County of Simcoe owns 150 forest properties spanning 33,000 acres.[39] Six of the County's Forest Tracts are located within Adjala-Tosorontio.[40] Established initially to rehabilitate 'wastelands,' these forests provide many environmental, social, and economic benefits to the County, including protection of wildlife habitat and water resources, public education, recreation, scientific research, and the production of wood products.

Unique to the County of Simcoe is a Wildland Firefighting Agreement between many municipalities, and the County of Simcoe is to be either a participating or host municipality. Township of Adjala-Tosorontio's By-law 19-28 permits ATFD's participation in this program as a participating Municipality. The difference is that hosting municipalities store a cache of wildland firefighting specialized equipment available to any of the participating partners. The agreement includes the County putting a small amount of funds toward training firefighters in SP 103, a forest firefighting course. The closest cache of wildland firefighting equipment for ATFD's use is in the Town of New Tecumseth.

The County pays responding fire departments to a wildland fire in any forestry tract at the Ministry of Transportation rate for each apparatus. These rates are the same as paid for attending emergencies on any King's highway in the Province.

[39] Recreational Use - Forestry (simcoe.ca), Accessed August 17, 2023, https://www.simcoe.ca/dpt/fbl/recreation

[40] Interactive Map - County of Simcoe (GIS), Accessed October 22, 2023, https://opengis.simcoe.ca/public/?THEME=Forestry%20and%20Recreation

The needles and duff lying on the forest floor create a fast-burning fuel if ignited. Due to the many layers of duff, deep-seated burning may occur that burns underground without identifying its location or that the process is taking place until some time later.

Some forests have unmapped trails and roadways that meander throughout the bush for miles. These conditions make navigating the forest difficult for firefighters, especially if smoke obscures their vision. A fire may burn for some time before its discovery, and a poor road system and unmarked trails may hamper the firefighters' ability to get resources into the fire. ATFD should complete a pre-incident plan for each forest tract in their response zones, including trail maps. It would be a proactive move if CFB Borden provided some mapping of the significant forested portions of the Base. If the Base experienced a wildland fire in any of those areas, there is a good possibility they will require the assistance of ATFD under the Mutual Aid Agreement they have in place.

While many municipalities north and east of Simcoe County have response agreements with MNRF for fire fighting services, except for these few, most do not exist in Simcoe County because few forests are Provincial Crown Land. Requests for air tanker support during a large conflagration may take a long time as the requests work through the hierarchy of bureaucracy.

Fortunately, many fire departments, like ATFD, have acquired either ATVs or UTVs with fire fighting and patient transport capabilities. ATFD has an ATV located at its Loretto Station 2. When it comes time to replace the ATV, this should include the acquisition of a UTV as its replacement. The UTVs have tracks and not wheels for better traction, making them year-round apparatuses. Another piece of technology that would greatly assist fire departments in observing the fire's location and progression is a drone. The aerial pictures would provide an all-encompassing vantage point for the Incident Commander to view firefighting operations and direct resources as required. Fortunately for ATFD, New Tecumseth Fire Rescue has a drone that may be available.

6.5 Special Operations Services

The cost of providing every technical rescue service and mitigation of HAZMAT incidents can be daunting to Municipalities and their fire departments. The high administration, training, and equipment prices fail to collate with the times each discipline may be called upon during a year. It is challenging for firefighters to maintain their skill sets when they do not use them in actual incidents. Another problem is staff turnover. With the turnover of firefighters in paid-on-call departments being as high as it is, the department cannot meet the training needs to ensure competency in each discipline.

To ATFD's advantage, Barrie Fire & Emergency Service (BFES) will respond to technical rescue and HAZMAT calls outside the City's boundary to assist other municipalities. BFES assesses a

stand-by fee for each discipline, and the Municipality chooses which ones they wish to have BFES respond to. The call types include:

- Low/high angle rescue
- Confined space rescue
- Trench rescue
- Ice/water rescue
- HAZMAT

When BFES responds, they will invoice the Municipality for the total response cost, including staff time, apparatus and disposable equipment. It is imperative that the municipality receiving this service have an inclusion in its Fees and Charges By-law that covers these call types and that they are at full cost recovery for both their and BFES' services. The Township of Adjala-Tosorontio's Fees and Charges, By-law 2023-39, lacks this inclusion within its fees Schedule – A for ATFD.

This MOU is for five years through By-law 22-101. Utilizing this service from BFES is fiscally responsible on ATFD's part. Even though ATFD will no longer be a participant on the response side of the County of Simcoe's HAZMAT Response Program, per By-law 18-31, the Program's training props remain available for ATFD's use when certifying the firefighters to NFPA 1001, which requires certification to NFPA 472, *Standard of Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*.

Section 6: Recommendations

	Recommendation	Suggested Implementation Timeline	Estimated Costs	Rationale
43	Adjala-Tosorontio Fire Department needs to review and update, as necessary annually, all response and automatic aid agreements.	Short-Term (1-3 years)	Staff Time	Maintaining an up-to-date agreement will ensure the communities receive fire service protection that meets current and future circumstances.
44	The ATFD must review and prepare the Mutual Aid Participation By-law 06-48 for the Council's Approval.	Short-Term (1-3 years)	Staff Time	By-laws and Agreements need reviewing and updating annually to ensure they are current and meet the community's needs. The current Mutual Aid By-law received the Council's approval in 2006.

	Recommendation	Suggested Implementation Timeline	Estimated Costs	Rationale
45	Include in the Fees and Charges By-law responding to and mitigating technical rescues at full cost recovery.	Short-Term (1-3 years)	Staff Time	Including this charge in the by-law ensures that local taxpayers do not bear the cost of mitigating technical rescues, which can cost thousands of dollars.

SECTION 7

Finance, Budgeting, Fees & Cost Recovery Mechanisms

SECTION 7: FINANCE, BUDGETING, FEES, & COST RECOVERY MECHANISMS

7.1 Finance

EMG reviewed several documents in preparation for reviewing finances related to the operation and functions of the ATFD. These documents included the BMA - Municipal Study 2022, the Township of Adjala-Tosorontio Asset Management Policy, the Township of Adjala-Tosorontio 2021, 2022, 2023 Approved Budget (Operating and Capital) and the 2024 Draft Budget, By-Law 19-13 Joint agreement between the Township of Adjala-Tosorontio, Town of Mono, and the Township of Mulmur for the provision of fire protection services and to establish a Fire Department known as the "Rosemont District Fire Department, By-Law 20-20 Cost Recovery (Fees) with Respect to Fire Department Specific Response and to Repeal By-Law 15-26, By-Law 21-84 The Imposition of Development Charges, By-Law 2023-39 To Establish fees and charges to be collected by the Corporation of the Township of Adjala-Tosorontio and repeal By-Law 2022-74, By-Law 98-37 To Authorize the Mayor and Clerk to execute a fire protection agreement with the Township of Mulmur, and By-Law 98-38 To Authorize the Mayor and the Clerk to execute a fire protection agreement with the Township of Clearview.

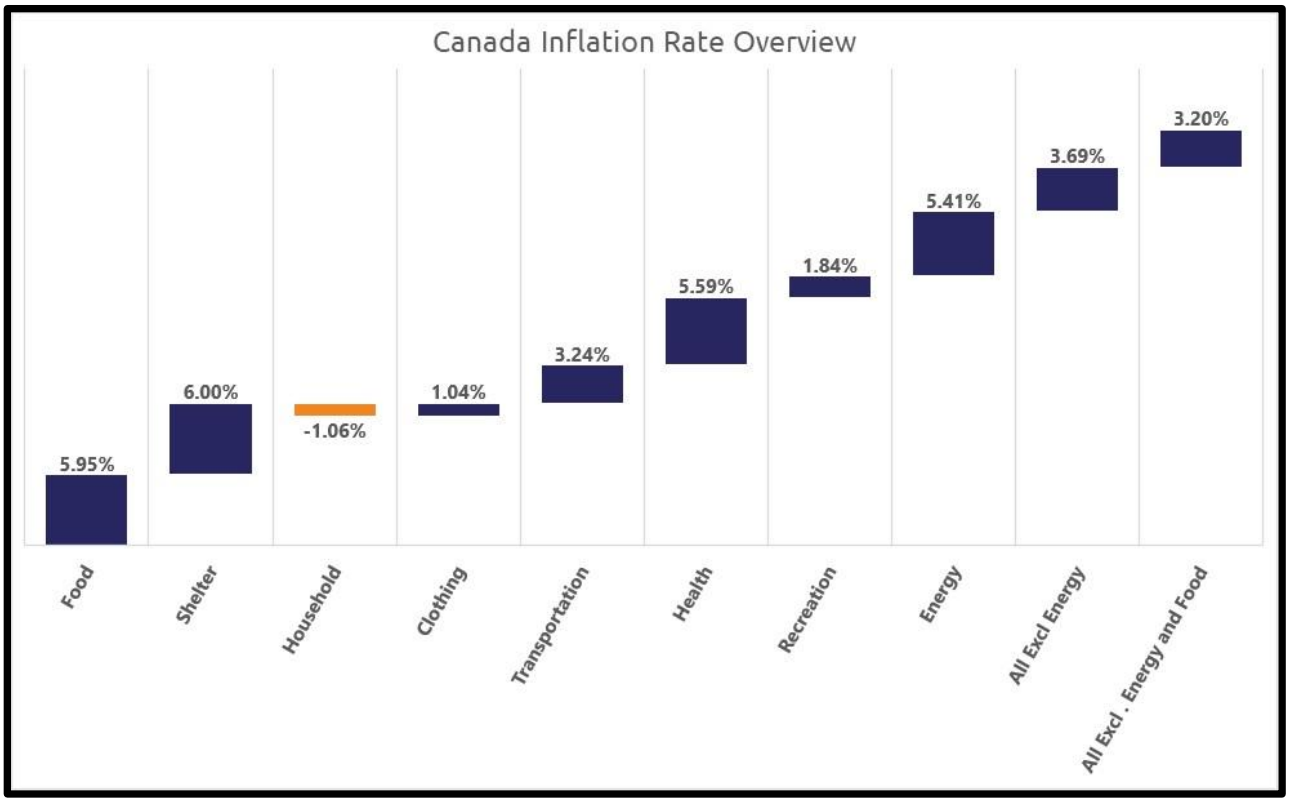
The current methodology of establishing budgets for the ATFD follows a pattern like that of many other Ontario municipalities wherein successive budgets are based on existing budgets with changes proposed based on various factors, primarily Consumer Price Index (CPI)/inflation rate fluctuations.

The COVID pandemic has caused CPI increases over and above the norms that Canadians had become accustomed to in recent years; hence 1.5-3% budget increases have been commonplace in many Ontario communities. With the CPI as of September 2023 being calculated at 3.8%, many municipalities were hard-pressed to follow suit with such tax increases.

The table below illustrate the CPI/inflation rate published by Statistics Canada as of September 2023[41].

[41] https://wowa.ca/inflation-rate-canada-cpi Retrieved on October 20, 2023

TABLE #11: CANADA'S INFLATION RATE



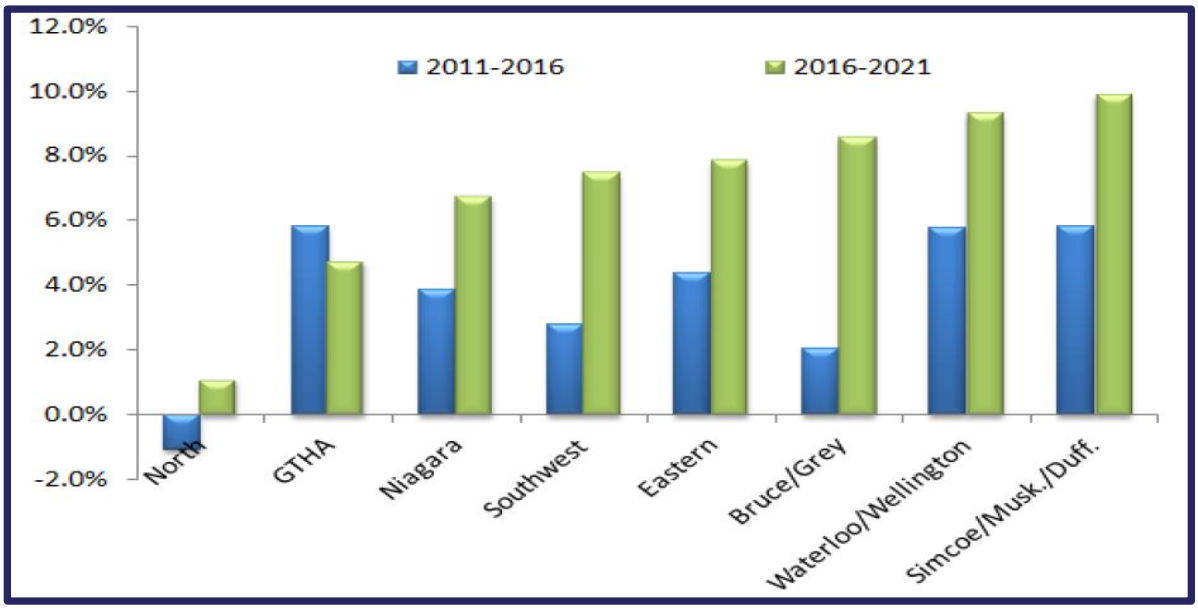
Canada Inflation Rate Statistics (CPI)			
Consumer Price Index (CPI)	Monthly Change	Quarterly Change	Annual Change (Inflation Rate)
158.5	-0.13% ↓	0.83% ↑	3.80% ↑

Few Ontario municipalities purchase milk and eggs; fuel, asphalt, and large vehicles are more typically the subject of municipal corporate acquisitions. This observation is offered to give some context to the notion of constructing cost estimates utilizing more sector-specific indices, which the fire department does by examining actual budget expenditures on a yearly basis.

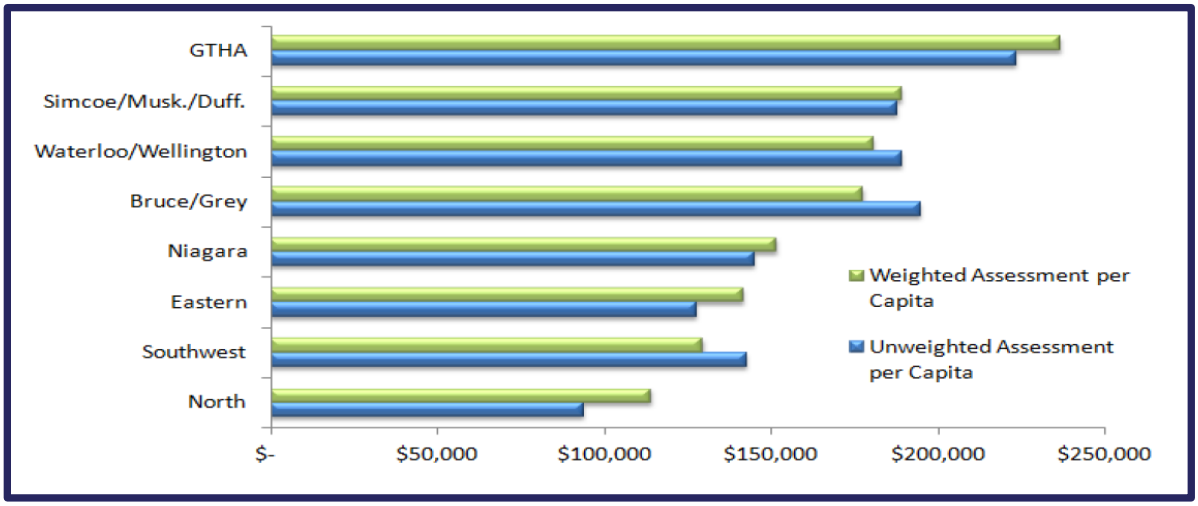
In the fire-centric realm, the cost of fire apparatus, for example, has risen over 20% over the last two years, according to some industry experts. A global economy is driving these costs, increasing demands for equipment and machinery (equating to longer delivery times), labour shortages, and rising costs for component materials. It is not unusual to see a million-dollar price tag on a pumper (the main stay of any fire fleet) in Ontario now – something unheard of a few short years ago.

Recent data compiled by BMA Management Consulting Inc. of 117 Ontario communities identified that the geographic location of "Simcoe/Muskoka/Dufferin" has the second highest population density after the GTHA. According to the BMA, this may indicate a municipality reaching build-out or needing services and infrastructure expansion.

Further, according to the BMA 2022 Study, the Simcoe/Muskoka/Dufferin municipalities experienced the most significant population growth during the 2016-2021 years. The Township of Adjala-Tosorontio has several in-progress planning applications that will impact fire protection services, to say the least.



Furthermore, according to the BMA 2022 Study, the Simcoe/Muskoka/Dufferin geographic location has the second strongest assessment base behind the GTHA (based on the average Weighted Assessment per Capita).



The BMA 2022 Study data are valuable indicators of the "state-of-affair" of a municipality. The data for the geographic location of Simcoe/Muskoka/Dufferin can be extrapolated to evaluate the financial position of The Township of Adjala-Tosorontio.

7.1.1 Operating Budget

The 2024 proposed operating budget for the department was established at $2.13M compared to $1.39M in 2023, which is an increase of $735K or 53%. The budget driver for this year's exceptional increase is compensation from VFF increase based on actuals and the estimated impact of a 2-hour minimum call out for VFF and the addition of a Deputy Fire Chief position (Wages and Salaries and Benefits).

From the Township of Adjala-Tosorontio Draft 2024 Budget, the percentage of tax levy for fire protection services for 2024 is 22%. A review of the budget allocation for the ATFD for the past four years shows healthy increases from 2021 to 2024 budget year.

	2024	2023	2022	2021
Budgeted	2,127,440	1,392,307	1,048,049	947,107
% Change (previous year)	53%	33%	20%	11%

Salaries and wages (including benefits/WSIB/etc.) for ATFD in 2024 and 2023 accounted for approximately 45% of the budget, typical for most volunteer-based fire services with a small complement of career-based staff. For comparison, most full-time/career-based departments experience salaries and wage costs in the 90% range due to notably higher salary costs.

Data analysis of five-year actuals can help determine future budget allocations. However, the impact of COVID-driven pricing on cost forecasting is complicated when supply chain issues, delivery costs, and general higher-than-expected municipal price index increases are considered.

A complete financial analysis of the performance of all cost centers is more appropriate within the realm of Corporate Services staff other than to suggest that continued improvements in service provision by the ATFD are sure to have an impact on tax rates.

Fire services in smaller communities always appear to be a value proposition when one considers the per capita cost of fire protection relative to the monthly cost of other household consumer goods such as internet or cable TV service. Virtually no other municipal entity uses

volunteer or paid-on-call employees to deliver core services to the same extent and effectiveness as a fire department.

Another area of this report discusses the need to introduce a limited number of career-based firefighters to support the volunteer-based component of ATFD. However, regarding financial impacts, one must consider whether paying too little for a service equates to "better." In the end, ratepayers get the level of service that they pay for.

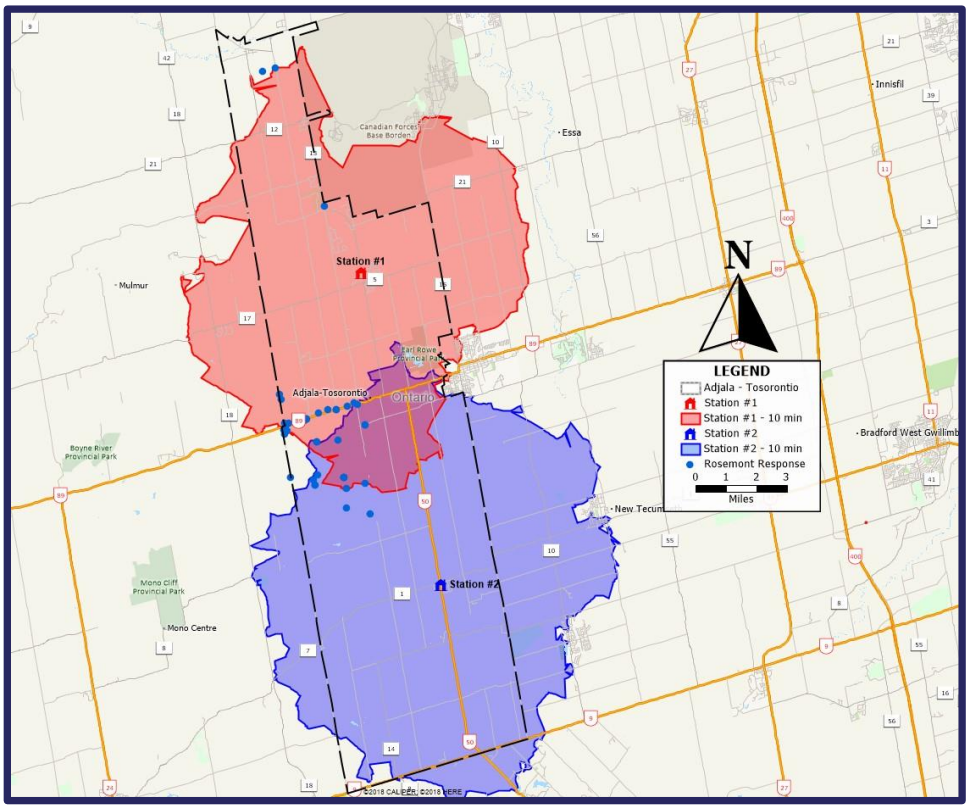
EMG submits that any increased investment in the fire service is an investment in the Township and thus contributes to a quality of life that is palpable in the community. EMG applauds the initiative of the Township of Adjala-Tosorontio's positive percentage of changes with respect to the "Salaries Volunteer Firefighter" cost code given the anticipated population growth and changing needs of the municipality vis-à-vis investing in its fire department to address fire protection services.

By-Law 19-13: A By-Law to authorize the execution of a joint agreement between the Township of Adjala-Tosorontio, the Town of Mono and the Township of Mulmur for the provision of fire protection services and to establish a fire department known as the "Rosemont District Fire Department."

The Township of Adjala-Tosorontio adopted By-Law 19-13 where they participate with a neighbouring Town and Township to provide fire protection services through the establishment of the Rosemont District Fire Department. Sub-section 9 (a) and 9 (b) set the apportionment of the cost to operate the Rosemont District Fire Department using the formulae in Schedule B of the By-Law. The expense is absorbed in the Adjala-Tosorontio Fire Operating Budget under GL: 01-200-410-5050 for $96,670 and $100,930 in the budget years 2023 and 2024, respectively.

EMG's review of call services from the Rosemont District Fire Department within the Adjala-Tosorontio Township limits demonstrated that Adjala-Tosorontio could respond to within the 10-minute response time performance requirement of the NFPA 1720 (figure #21).

FIGURE #21 - CALL RESPONSES FROM ROSEMONT DISTRICT FIRE DEPARTMENT WITHIN ADJALA-TOSORONTIO TOWNSHIP LIMITS



The fact that the ATFD can adequately provide fire protection services to the area covered by the Rosemont District Fire Department suggests that the expense may not be justified. EMG recommends that the ATFD investigate the return on investment of the Rosemont District Fire Department providing fire protection for the response area of the Township of Adjala-Tosorontio identified in Schedule "A" of By-Law 19-13. This may require the withdrawal of the Township of Adjala-Tosorontio from By-Law 19-13. At the very least, ATFD assuming fire protection for the said area identified in Schedule "A" of the By-Law 19-13 should translate into a saving for the Township and the ATFD.

7.1.2 Capital Budget

The 2023 Capital Budget forecast for the fire department is well laid out in that it addresses infrastructure, apparatuses, and equipment needs.

During our review of the forecast, EMG paid particular attention to the noted Township of Adjala-Tosorontio 10-year Capital Plan and observed that the capital requirements suggested to meet and maintain the current level of service for fire protection services are well laid out.

However, over the period of 10 years, the estimated costs are conservative and underperforming, which may lead to an unexpected increase in estimated costs, given the current inflation rates. For instance, fire apparatuses in recent years have seen a 20% cost increase and a similar trend is expected for fire protection equipment, such as PPEs, SCBAs, hoses, and fire nozzles:

- Forecasted expenses for protection vehicles and equipment are underestimated and forecasted expenses should be revised to account for the recent increase in production costs.

7.2 Revenue Opportunities – Development Charge By-Law 21-84, Fees and Charges By-Law 2023-39, and By-Law 98-37 Fire protection Agreement with the Township of Mulmur

New construction and redevelopment of buildings attract more people to live and work in the Adjala-Tosorontio Township. As a result of this growth, municipalities typically undertake new infrastructure projects (e.g., roads, recreational facilities, fire stations, etc.) to provide a stable level of service for all ratepayers.

The Township's monies from development charges for the new construction pay for a portion of the capital costs due to more people using municipal infrastructure. These are known as growth-related capital costs. Examples of capital projects development charges that could help to fund that are specific to fire services include:

- Building a new (additional) fire station
- Purchasing new (additional) fire apparatus
- Purchasing new bunker gear for an expanded firefighting force

The Township’s council approves capital projects every year during the annual budget process and directs the use of development charges to fund growth-related capital projects that benefit the whole municipality. Without these charges, the Township would have to pay for growth-related capital costs from property taxes or another source of revenue.

Aside from increasing tax rates and collecting monies through fees for service, municipalities have very few ways to generate additional revenue to keep tax increases to a minimum. Assessing new residential, commercial, and industrial development charges is one of the few other ways to generate revenue. In this case, it is the intention that the developer pay for the extra costs (and thus increasing demands on existing services) that the growth they are facilitating will create.

It has often been said that new development should pay for itself, but this is seldom the case. The taxpayer is left to underwrite the new costs placed on municipalities due to development, especially when development charges are less than adequate.

EMG reviewed the Township of Adjala-Tosorontio Development Charge By-Law 21-84. "Fire Protection Services" is a designated municipal service under Schedule "B" to By-Law 2018-54. Schedule "B' breaks down monies collected by unit types, such as Single Residential Unit, Multiple Residential Unit, and Apartment Unit. For instance, with respect to the "Single or Semis" unit type, the ATFD is currently allocated $2,040 out of the $11,163 collected for single and semi-detached residences (Table #12).

With revenue generation in mind, during the next Development Charge review process, EMG recommends a review of the ATFD-specific costs that are contained within the Development Charge policy with a view to increasing the allocation for fire services and fully identifying those future costs which could be attributed to growth (new or increased fire station size and fleet needs).

TABLE #12: SCHEDULE "B" TOWNSHIP OF ADJALA-TOSORONTIO DEVELOPMENT CHARGE BY-LAW 2018-54

Service/Class of Service	Residential				Non-Residential
	Single and Semi-Detached Dwelling	Other Multiples	Apartments – 2 Bedroom +	Apartments – Bachelor & 1 Bedroom	Per sq ft. of Gross Floor Area
Municipal Wide Services					
Transportation	5,314	4,132	2,986	2,087	1.92
Fire Protection	2,040	1,586	1,146	801	0.74
Policing	9	7	5	4	0.00
Parks and Recreation	1,333	1,037	749	523	0.48
Growth-Related Studies	316	246	178	124	0.11
Total Municipal Wide Services/Class of Services	9,012	7,008	5,064	3,539	3.25
Area-Specific Services – Everett Settlement Area Road Services	2,151	1,673	1,209	845	1.42
Total Urban Services	2,151	1,673	1,209	845	1.42
Grand Total Municipal-Wide	9,012	7,008	5,064	3,539	3.25
Grand Total Everett Settlement Area	11,163	8,681	6,273	4,384	4.67

EMG also reviewed the Township of Adjala-Tosorontio Fees and Charges By-law 2023-39 and note the following comments:

- Schedule "A" – Fire Services Rates of the By-Law 2023-39 has a good list of items where fees can be recovered. Some of the rates are set as "COST". However, "COST" is not defined or prescribed. ATFD should assign a value to the rates identified as "COST."
- Fees collected in Schedule "C" are not clearly accounted for in the Fire Operating Budget. REVENUE G/L 01-060-075-0556: BURN PERMITS is the revenue general ledger utilized for the collection of fees under Schedule "A" of By-Law 2023-39. ATFD should work with the Treasurer to align the revenue code with the Schedule "C" list to ensure that revenues are not missed. An alignment would allow the ATFD to monitor fees to optimize fees for service.
- The burn permit-related fees should also reflect the clerical support cost incurred by the ATFD for the licensing management.
- The fees should be reviewed to align with current costs to deliver the services listed. The ATFD should compare fees and charges for emergency services with surrounding municipalities to leverage their fees and charges to industry standards and best practices.
- The INSPECTION-related fees and charges list should be reviewed and expanded to include A, D, E, and F occupancies, re-inspections, etc.

In addition to the Township of Adjala-Tosorontio's fees and charges By-Laws, EMG noted that the ATFD also generates revenues from the recovery of fire protection response costs from insurance companies by "Indemnification Technology®." These revenues are captured under GL: 01-060-435-0557 4674: "FIRE EXTERNAL RECOVERY." EMG again applauds the innovative approach from the Township of Adjala-Tosorontio pertaining to revenue generation possibilities.

EMG notes and commends the Township of Adjala-Tosorontio's initiative, where the revenue generated from fire protection recovery costs is applied directly to and benefits the ATFD. To ensure future prosperity for the fire cost recovery agreement and allocation of the funds, EMG recommends that ATFD reviews By-Law 20-20: *A By-Law to Authorize Cost Recovery (Fees) with Respect to Fire Department Specific Response and to repeal By-Law 15-26* to elaborate on the third-party cost recovery service agreement and itemize the revenue generation for the ATFD.

From the review completed by EMG, the ATFD currently employs a sound approach to budget management, and the recommendation to investigate revenue and expense sources, along with

the other recommendations within this section, will simply support the growth and development of this critical community service.

7.3 Reserves

The current Township of Adjala-Tosorontio Reserves and Reserves Funds allocated to the Fire Department is approximately $381,000. Given the recent new provincial regulations regarding community risk assessment and firefighter certification, managing the reserve to maintain the current fire protection level of service, EMG advises the ATFD to work closely with the Treasurer to monitor the reserves and reserve fund performance.

Aside from the remarks previously offered in this section of the report regarding the ATFD financial situation, EMG has no additional suggestions for improvement.

Section 7: Recommendations

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
46	EMG recommends that the ATFD investigate the return on investment of the Rosemont District Fire Department providing fire protection for the response area of the Township of Adjala-Tosorontio identified in Schedule "A" of By-Law 19-13.	Immediate to Short-Term (0-3 years)	Staff Time Only Potential to achieve savings upward of 100K.	The fact that the ATFD can adequately provide the fire protection services to the area covered by the Rosemont District Fire Department suggests that the expense may not be justified.
47	The ATFD reviews the specific costs that are contained within the Development Charge policy with a view to increasing the allocation for fire services and fully identifying those future costs which could be attributed to growth (new or increased fire station size and fleet needs).	Immediate to Short-Term (0-3 years)	Staff Time Only	With revenue generation in mind, during the next Development Charge review process, the Township of Adjala-Tosorontio's anticipated growth and its impact on emergency services should be factorized in the formula applied for fees and charges.

Rec #	Recommendation	Suggested Implementation Timeline	Estimated Cost	Rationale
48	The ATFD reviews By-Law 20-20 to elaborate on the third-party cost recovery service agreement and itemize the revenue generation for the ATFD.	Immediate to Short-Term (0-3 years)	Staff Time Only	To ensure future prosperity for the fire cost recovery agreement and allocation of the funds

Section 8

Recommendations Overview

SECTION 8: RECOMMENDATION OVERVIEW

8.1 Conclusion

The review conducted by EMG demonstrated that the full-time staff and volunteer firefighters are genuinely dedicated to the community they serve. The Council, CAO, and Fire Chief are sincerely committed to ensuring the safety of the community and the firefighters.

Based on the present staffing, equipment, and fire station locations, the fire service is endeavouring to offer the most efficient and effective service possible.

All costs and associated timelines noted in this report are approximations that can be implemented through prioritization between the Fire Chief, CAO, and Council.

This FMP is a long-range planning document. It is, however, recommended that annual updates be completed, and a full review be conducted at the five-year mark.

8.2 Recommendations, Estimated Costs, & Rationale

The following chart provides a detailed overview of the recommendations found throughout this report, along with any estimated costs and suggested timelines for implementation. A section has also been added to the chart identifying potential efficiencies upon implementing the recommendations presented by EMG.

This FMP document is a culmination of 48 recommendations.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
Section 1 – Community and Fire Department Overview				
No Recommendations for this Section				
Section 2 – Risk Assessment and Surveys				
1	Review and update all SOGS, including establishing an SOG Committee that meets on a pre-determined schedule and operates under newly developed Terms of Reference.	Immediate (0 to 1 year)	Staff Time Pending the decision to establish a SOG Committee, there may be a financial impact on the budget for firefighter participation.	Current SOGS provide clear direction on the expected operations of the ATFD.
2	With the completion of the CRA and this FMP, the Fire Chief should utilize the components of the two documents' recommendations for developing and implementing the CRRP.	Short-Term (1-3 years)	Staff Time Some recommendations may include associated costs	Keeping track of the CRA and FMP recommendations, along with implementation and outcomes resulting from the recommendations, will ensure proper tracking and accountability.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
3	Review input received from the surveys to identify further opportunities for the department and the community it serves in relation to educating the public on fire department operations and available services.	Short-Term (1-3 years)	Staff Time Some recommendations may include associated costs	Keeping track of the input received from the surveys can result in implementing new ideas, and sharing this information with staff will also support the value of their input.
Section 3 – Fire Department Divisions				
4	The ATFD hires a second Administrative Assistant.	Short-Term (1 to 3 years)	To start as part-time for an estimated cost of $25,000 to $35,000 annually. Eventually moved into a full-time position at a cost (with benefits) could be in the amount of $50,000 to $60,000 annually.	This administrative support model allows for support for both the Fire Prevention and Training Divisions. With community growth, there will be an increase in fire prevention inspections, along with the need for someone to keep track of all staff training and certification records. The present Administrative Assistant is already at full capacity and will require support.
5	ATFD continues to invest in its fire cause and determination program through certification and continuing educational opportunities for designated members with supporting SOGs.	Short-Term (1-3 years)	Staff Time	Comprehensive fire cause determination efforts help to direct fire prevention and public education efforts to community-specific needs.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
6	ATFD review its current inspection practices with a view to changing from a report-based practice to that of an order-based practice.	Short-Term (1-3 years)	Staff Time	This will facilitate an easier prosecution process should it be necessary to move non-compliant buildings to a state of compliance.
7	ATFD examines opportunities to digitize its fire inspection reporting and record keeping practices, including handheld computing devices for inspectors.	Short-term (1-3 years)	Staff Time	The use of handheld computing devices (i.e., tablets) can optimize administrative-related inspection and reporting activities, saving time.
8	The ATFD creates a Training Division, where the division is under the tutelage of either the Fire Chief or the Deputy Chief and where the coordination of the division is the responsibility of a staff with the rank of Assistant Deputy Chief with oversight of the training across both stations.	Immediate (0 to 1 year)	Staff Time Only	The ATFD's silo training model creates a decentralized training management system that results in the questionable fiscal management of training and inequitable training delivery affecting the overall efficient and effective training and education operability of the ATFD.
9	The Training Division to be staffed with an officer in the rank of Assistant Deputy Fire Chief (Training Officer roles and responsibilities).	Immediate (0 to 1 year)	OPTION A: ATFD hires a full-time Assistant Deputy Fire Chief of Training. There would be wages and salaries increase of	The creation of a Training Division would require the creation of a new position. Although EMG's analysis suggests that 4 (3.96) full-time staff would be required to support ATFD training needs adequately, EMG believes that **one full-**

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
			approximately $100K to $120K. OPTION B: ATFD creates a volunteer Assistant Deputy Fire Chief of Training. Renumeration should be appropriate for the workload and level of responsibilities required of the position. OPTION C: In this FMP, EMG proposed the hiring of a Fire Prevention Officer. ATFD could hire a full-time Assistant Deputy Fire Chief with dual responsibilities of Prevention and Training. The "dual responsibilities" are	time dedicated Training Officer supported by a Training Clerk responsible for the day-to-day administration of records and clerical duties associated with program development, lesson plans, scheduling, etc., would suffice to administer the ATFD training needs adequately. The full-time training officer would coordinate and supervise training delivery through the assistant district chiefs and captains as per the current model. A full-time Training Officer would provide consistency and uniformity in training delivery.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
			feasible if training delivery and public fire and life safety education functions are supported by dedicated volunteer from each station	
10	The ATFD adopts a remuneration policy for appointed instructors/trainers.	**Short-Term (1 to 3 years)**	**Salary cost increase will be incurred.** Amount will depend on determined rates.	To ensure the quality of instructors and quality of instructions, including certification to NFPA 1041: *Standard for Fire and Emergency Services Instructor Professional Qualifications*.
11	The ATFD ensures that any training props comply with NFPA 1402, *Standard on Facilities for Fire Training and Associated Props*.	**Immediate (0 to 1 year)**	**Staff time only**	NFPA 1402 provides guidance for the planning of fire service training centers, focusing on the main components necessary to accomplish general fire fighter training effectively, efficiently, and safely.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
12	The ATFD create a Live Fire Training SOG to support their live fire training efforts.	Immediate (0 to 1 year)	Staff Time Only	The most frequently cited contributing factors in the National Firefighter Near-Miss Reporting System are situational awareness and decision-making. In the live-fire training environment, both skills are crucial to the operation's success and can be repeatedly practiced and fine-tuned. A SOG will solidify the importance of live-fire training.
13	The ATFD sets its HAZMAT training to the OPERATIONS Level to adhere to their core service as prescribed in the By-Law 2023-42 and to adhere to the MOU with the City of Barrie regarding provisions of special operations services.	Immediate (0 to 1 year)	Staff Time Only	The By-Law states that the City of Barrie provides HAZMAT OPERATIONS and TECHNICIAN Levels through a memorandum of understanding (MOU) adopted through the Township of Adjala-Tosorontio By-Law 22-102 and By-Law 22-101. However, the MOU stipulates the township of Adjala-Tosorontio shall "provide additional personnel, equipment, support, and agencies as may be requested by BFES". Training to the HAZMAT AWARENESS Level does not provide adequate knowledge and expertise to support BFES in case of a HAZMAT response. This risk can be

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
				managed by ascertaining that the ATFD trains its firefighters to NFPA 1072 OPERATIONS Level prior to July 1, 2026.
14	The Township of Adjala-Tosorontio By-Law 2023-42 should be updated to align technical rescuer core services with wording from Table 1 of the Ontario Regulation 343/22. Secondly, all staff should be trained to the OPERATIONS level for any technical rescuer core service identified in the Township of Adjala-Tosorontio By-Law 2023-42. Thirdly, all technical rescuer training programs should be monitored to adhere to the NFPA 1006: *Standard for Technical Rescue Personnel Professional Qualifications* and in accordance with Ontario Regulation 343/22: *Firefighter Certification*. Finally, EMG also recommends that the ATFD aligns its technical rescuer operations and training to NFPA 2500: *Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services*.	Immediate (0 to 1 year)	Staff time Only	Aligning wording in the By-Law with O.Reg. 343/22 will avoid misunderstanding as to the adequate level of service provided and to avoid unnecessary training expenses. This standard specifies the minimum requirements for the ATFD-identified levels of functional capability for conducting operations at technical search and rescue incidents while minimizing threats to rescuers. Like the HAZMAT training conundrum, the current technical rescuer training at the AWARENESS Level contravenes the Township's responsibility prescribed in the MOU with the City of Barrie, where ATFD's training does not provide adequate knowledge and expertise to provide support to BFES in case of a TECHNICAL RESCUE response prior to July 1, 2026.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
15	The fire suppression training be streamlined to ensure standard and uniformity of training to all firefighters.	Short-Term (1 to 3 years)	Staff Time Only	This can be accomplished through universal lesson plans and an annual training schedule with a single subject-matter trained at both stations and through joint training exercises. The ATFD should implement the utilization of the Learning Management System called FLMS for both fire stations.
16	The ATFD trains all its firefighters to Fire and Life Safety Educator Level 1 and that the ATFD captains also be trained as Public Information Officer Level, under the NFPA 1035.	Short-Term (1 to 3 years)	Cost of training will be required. OFC offers an online training at $65.00 per student.	ATFD are innovative in engaging their firefighter in public fire and life safety education. Training for all staff will augment the program profile and its efficiency and effectiveness.
17	The District Chief at each station should be certified to NFPA 1031 Fire Inspector Level 1.	Short-Term (1 to 3 years)	Cost of training will be required. OFC offers an online training at $65.00 per student.	Ideally, both district chiefs and all captains should be trained and certified to NFPA 1031 Fire Inspector Level 1 to meet the goals set in The Township of Adjala-Tosorontio By-Law 2023-42 pertaining to FIRE PREVENTION – Core Services.
18	The ATFD Fire Prevention policy addresses training requirements and that the training requirements for Fire Prevention which	Short-Term (1 to 3 years)	Staff Time Only	With the adoption of Ontario Regulation 343/22, made under the FPPA, 1997, it will become incumbent on the ATFD to

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
	should be set at Level 2 of NFPA 1031: *Standard for Professional Qualifications for Fire Inspector and Plan* Examiner be added to the program development and delivery of the ATFD.			take a more active role in testing and certification to NFPA 1031 and NFPA 1035. ATFD's policy should align with the regulation's certification requirements set in Tab le1.
19	The ATFD dedicated fire investigators be concurrently certified to NFPA 1033 and NFPA 921; that the fire investigation operations and training adhere to NFPA 1231: *Standard for Fire Investigation Units*, and that the ATFD be responsible for monitoring, record keeping, testing, and certification to the said NFPA standards.	Short-Term (1 to 3 years)	Cost of training will be required. OFC and RTCs offer a fire investigation training. It is estimated that cost of external training would equate to approximately $2,500 per student.	The Ontario Regulation 343/22 sets the fire investigator certification requirements to NFPA 1033. Qualification for NFPA 921 is essential because it is the companion guide to the NFPA 1033.
20	The ATFD expand its investment in its Learning Management System - FLMS to effectively capture all training records and that customization be programmed to ensure a smooth transfer of data from the LMS to the ATFD Administrative database (currently FIREHOUSE).	Short-Term (1 to 3 years)	ATFD has already adopted the Stillwaters Learning Management System called FLMS. Cost should be minimal.	The ATFD training reports and records do not align with NFPA 1401: *Recommended Practice for Fire Service Training Reports and Records* and Part 7 of the Section 21 Guidance Notes. The two stations have different means of keeping records. Although ATFD LMS has recordkeeping capabilities, it is not used to record training. Most training records are tracked manually. Manually recorded

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
				training records are then forwarded to the ATFD Administrative Assistant, who enters the information in the fire department record management software called FIREHOUSE.
21	The ATFD invests in developing a promotional process for firefighter increment, captain, district chief, and assistant district chief positions.	Short-Term (1 to 3 years)	Staff Time Only	The ATFD do not have or have outdated promotional policy/SOGs. Procedures and processes are not prescribed in dedicated promotional policies or SOGs, resulting in departmental productivity deficiencies and morale issues.
22	ATFD to participate in the SCPA Quality Care Program in patient care and training.	Short Term (1 to 3 years)	Staff Time/Stipend plus disposable medical supplies	Doing so would ensure the quality of care consistent with the training and program monitoring. In the end, the patient receives an enhanced level of treatment.
23	ATFD trains and permits firefighters to administer Naloxone to patients who have experienced an opioid overdose and Epinephrine to those with an allergic reaction.	Short Term (1 to 3 years)	Staff Time/Stipend	Permitting firefighters to administer Naloxone and Epinephrine will enhance ATFD's patient care, possibly saving lives.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
24	At least two members of ATFD are trained to the operations level in elevator rescues per the TSSA Standard.	Short Term (1 to 3 years)	Staff Time Plus, training and possibly some hand tools.	Having at least two members trained in this discipline permits ATFD to meet its due diligence in ensuring the members of ATFD are trained to the awareness level.
25	Update the automatic Aid Agreement with the Township of Clearview for fire protection in the Township of Adjala-Tosorontio, which includes expanding the response zone to the 30th Sideroad.	Short-Term (1 to 3 years)	Staff Time	Expanding the response boundary provides enhanced service provision to several residents residing in the new area of the agreement.
26	The ATFD ensures SOGs, training and specialized equipment to fight fires involving lithium-ion batteries found in vehicles, scooters, and motorbikes.	Short-Term (1 to 3 years)	Staff Time The cost of training programs and specialized equipment has yet to be determined. Early estimates for the Emergency Plug are USD 1,000.00.	Even though they have been on the market for some years, electric vehicles present a high rate of fires involving lithium-ion batteries. Many fires have occurred involving the charging of scooters and e-bikes with the same battery type.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
27	Include references to NFPA 1225 in the Township of Adjala-Tosorontio's dispatch agreement with the City of Barrie.	Short-Term (1 to 3 years)	Staff Time	This addition to the agreement will identify expected competencies and service provisions from Barrie Fire's Communications Division.
28	The Township must install backup power at each radio transmission site, including batteries and a generator.	Immediate (0 to 1 year)	$60,000 to $75,000	Uninterrupted radio communication is paramount in emergency services.
29	ATFD arranges for the programming of the radio frequencies of the surrounding fire services from outside the County of Simcoe in all ATFD mobile and portable radios	Short-Term (1 to 3 years)	$7,000 to $15,000	ATFD often responds with fire services outside the County of Simcoe; having the ability to communicate with them is necessary for seamless operations.
30	The Township of Adjala-Tosorontio establishes a reserve account for covering expenditures incurred while implementing NG 9-1-1.	Short-Term (1 to 3 years)	Costs have yet to be determined by the Federal Government and passed onto lower-tier municipalities.	Having funds set aside will lessen the impact of unexpected costs associated with this technological change.
31	ATFD must develop an all-around wellness program focusing on cancer prevention measures and a mental wellness program.	Short-Term (1 to 3 years)	Staff Time	It is well documented how fitness aids members in having a healthy lifestyle that may reduce the incidence of injury and illness.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
32	ATFD invests in decontamination equipment and develops the appropriate Policies and SOGs to decontaminate firefighters at the fire scene.	Immediate (0 to 1 year)	Staff Time Required to develop the policies and SOGs, and approximately $5,000.00 is required for decontamination equipment.	To reduce the risk of exposure to carcinogens, begin at the fire scene by cleaning the bunker gear and not transporting it back to the station in the cab of the apparatus.
33	Council and ATFD revisit the pay structure and consider returning to the previous wage scale of two hours of pay for the first hour and one hour of pay for each hour after that.	Short-Term (1 to 3 years)	$125,000 to $200,000	Returning the pay rate to the previous policy will provide extra income as a thank-you to the members for their service to the community. Paying the extra funds may reduce the exposure of training recruits because members have left as the compensation was insufficient.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
Section 4 – Fire Stations, Vehicles and Equipment				
34	Purchase automatic standby generators for both fire stations to energize the entire building. Consider larger than required so they may be moved to the new stations when they come online.	Immediate (0 to 1 year)	$100,000	Having a reliable power source during an outage will ensure apparatus may respond without delay and firefighters may move about without the risk of injury.
35	The Township of Adjala-Tosorontio, during their 2024 budget deliberations, established a reserve for the construction of a new Station 1.	Short to mid-term (1 to 6 years)	$6.0 to $7.5 million.	Station 1 is at the end of its life span as a fire station. Several amenities not in the present station would be advantageous to have. Some for the reduction of the risk of contracting cancer. Delays will result in higher construction costs the longer they are delayed. Analyze the option of leasing a building for a fire station. Consider working in cooperation with a developer.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
36	Enter into a response agreement with the Town of New Tecumseth for them to respond with an aerial device into the Township of Adjala-Tosorontio.	Short-term (1 to 3 years)	Staff time with the additional standby fee of approximately $3,000.	A response agreement will ensure that an aerial device will respond to incidents in the Township of Adjala-Tosorontio without delay. The Fees and Charges by-law needs to include full-cost recovery whenever there is an aerial response from the New Tecumseth Fire Rescue into the Township.
37	ATFD needs to develop its Respiratory Program.	Short-Term (1 - 3 Years) Ongoing	Staff Time	This program is an industry standard and best practice. It also aids in ensuring the health and safety of firefighters when wearing respiratory protection devices.
38	The Township needs to direct those responsible for the maintenance of the hydrants to inspect all fire hydrants and test as required in Section 6.6 of the *Ontario Fire Code* and NFPA 291, *Recommended Practises of Fire Flow Testing and Marking of Hydrants*.	Short-Term (1 - 3 Years	Staff Time and Costs	Doing so will ensure compliance with the Ontario Fire Code.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
Section 5 – Emergency Management				
39	EMG recommends that the Emergency Management Program Committee (EMPC) establish regular, bi-annual meetings that are "minuted" and reported to Township Council.	Short-Term (1-3 years)	Staff Time	To bring more focus and awareness to the emergency planning activities that are occurring in the Township.
40	EMG recommends that the Emergency Management Program Committee establish an annual work plan to ensure that activities necessary for compliance with the EMPCA are conducted and completed promptly and that this plan includes a fulsome review of the Critical Infrastructure Inventory.	Short-Term (1-3 years)	Staff Time	To bring clarity to the work associated with the annual compliance initiatives under the EMPCA, proactively assign work items to individuals for accountability purposes and update the CII as this forms an essential part of the community's plan.
41	EMG recommends that the town move to conduct a functional or full-scale emergency exercise within the next 1-3 years as the next logical step in program development and to test the municipal plan and community resources more fully.	Short-Term (1-3 years)	Staff Time	To identify shortcomings in the existing plan and identify opportunities for improvement.
42	EMG recommends establishing a budget line specifically for "Community Emergency Planning Initiatives" within the annual operating budget.	Short-Term (1-3 years)	To Be Determined.	To allow broader community education efforts and establish a funding pool for exercise design and implementation.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
Section 6 – Mutual Aid, Automatic Aid and Fire Service Agreements				
43	Adjala-Tosorontio Fire Department needs to review and update, as necessary annually, all response and automatic aid agreements.	Short-Term (1-3 years)	Staff Time	Maintaining an up-to-date agreement will ensure the communities receive fire service protection that meets current and future circumstances.
44	The ATFD must review and prepare the Mutual Aid Participation By-law 06-48 for the Council's Approval.	Short-Term (1-3 years)	Staff Time	By-laws and Agreements need reviewing and updating annually to ensure they are current and meet the community's needs. The current Mutual Aid By-law received the Council's approval in 2006.
45	Include in the Fees and Charges By-law responding to and mitigating technical rescues at full cost recovery.	Short-Term (1-3 years)	Staff Time	Including this charge in the by-law ensures that local taxpayers do not bear the cost of mitigating technical rescues, which can cost thousands of dollars.
Section 7 – Finance				
46	EMG recommends that the ATFD investigate the return on investment of the Rosemont District Fire Department providing fire protection for the response area of the Township of Adjala-Tosorontio identified in Schedule "A" of By-Law 19-13.	Immediate to Short-Term (0-3 years)	Staff Time Only	The fact that the ATFD can adequately provide the fire protection services to the area covered by the Rosemont District Fire Department suggests that the expense may not be justified. Potential to achieve savings upward of 100K.

Rec #	Recommendation	Suggested implementation Timeline	Estimated Costs	Rationale
47	The ATFD reviews the specific costs that are contained within the Development Charge policy with a view to increasing the allocation for fire services and fully identifying those future costs which could be attributed to growth (new or increased fire station size and fleet needs).	Immediate to Short-Term (0-3 years)	Staff Time Only	With revenue generation in mind, during the next Development Charge review process, the Township of Adjala-Tosorontio's anticipated growth and its impact on emergency services should be factorized in the formula applied for fees and charges.
48	The ATFD reviews By-Law 20-20 to elaborate on the third-party cost recovery service agreement and itemize the revenue generation for the ATFD.	Immediate to Short-Term (0-3 years)	Staff Time Only	To ensure future prosperity for the fire cost recovery agreement and allocation of the funds

Appendices

Appendix 'A' - Five-Step Staffing Process

Appendix 'B' – FUS Technical Document on Elevated Devices

Appendix ‘A’

5-Step Staffing Process

APPENDIX A – FIVE-STEP STAFFING PROCESS

Step 1: Scope of Service, Duties, and Desired Outputs

Identify the services and duties that are performed within the scope of the organization. Outputs should be specific, measurable, reproducible, and time limited. Among the elements can be the following:

- Administration
- Data collection, analysis
- Delivery
- Authority/responsibility
- Roles and responsibilities
- Local variables
- Budgetary considerations
- Impact of risk assessment

Step 2: Time Demand

Using the worksheets in Table C.2.2(a)-(d), quantify the time necessary to develop, deliver, and evaluate the various services and duties identified in Step 1, considering the following:

- Local nuances
- Resources that affect personnel needs

Plan Review - Refer to Plan Review Services Table A.7.9.2 of the standard to determine Time Demand.

Step 3: Required Personnel Hours

Based on Step 2 and historical performance data, convert the demand for services to annual personnel hours required for each program *[see Table C.2.3(a) through Table C.2.3(e)]*. Add any necessary and identifiable time not already included in the total performance data, including the following:

- Development/preparation
- Service

- Evaluation
- Commute
- Prioritization

Step 4: Personnel Availability and Adjustment Factor

Average personnel availability should be calculated, taking into account the following:

- Holiday
- Jury duty
- Military leave
- Annual leave/vacation
- Training
- Sick leave
- Fatigue/delays/other

Example: Average personnel availability is calculated for holiday, annual, and sick leave per personnel member (see Table C.2.4).

Step 5: Calculate Total Personnel Required

Branch of the unassigned personnel hours by the adjustment factor will determine the amount of personnel (persons/year) required. Any fractional values can be rounded up or down to the next integer value. Rounding up provides potential reserve capital; rounding down means potential overtime or assignment of additional services conducted by personnel. (Personnel can include personnel from other agencies within the entity, community, private companies, or volunteer organizations).

Correct calculations based on the following:

(1) Budgetary validation

(2) Rounding up/down

(3) Determining reserve capital

(4) Impact of non-personnel resources (materials, equipment, vehicles) on personnel

More information on this staffing equation can be found within the National Fire Protection Association 1730 standard. The Fire Prevention should assess the previous five steps and evaluate their present level of activity and the future goals of the Branches.

Appendix ‘B’

FUS Technical Document on Elevated Devices

APPENDIX B– FIRE UNDERWRITERS SURVEY TECHNICAL DOCUMENT ON ELEVATED DEVICES

Fire Underwriters Survey™

TECHNICAL BULLETIN

FIRE UNDERWRITERS SURVEY™

A Service to Insurers and Municipalities

LADDERS AND AERIALS: WHEN ARE THEY REQUIRED OR NEEDED?

Numerous standards are used to determine the need for aerial apparatus and ladder equipment within communities. This type of apparatus is typically needed to provide a reasonable level of response within a community when buildings of an increased risk profile (fire) are permitted to be constructed within the community.

Please find the following information regarding the requirements for aerial apparatus/ladder companies from the Fire Underwriters Survey Classification Standard for Public Fire Protection.

Fire Underwriters Survey

Ladder/Service company operations are normally intended to provide primary property protection operations of

1.) Forcible entry;
2.) Utility shut-off;
3.) Ladder placement;
4.) Ventilation;
5.) Salvage and Overhaul;
6.) Lighting.

Response areas with 5 buildings that are 3 stories or 10.7 metres (35 feet) or more in height, or districts that have a Basic Fire Flow greater than 15,000 LPM (3,300 IGPM), or any combination of these criteria, should have a ladder company. The height of all buildings in the community, including those protected by automatic sprinklers, is considered when determining the number of needed ladder companies.
When no individual response area/district alone needs a ladder company, at least one ladder company is needed if the sum of buildings in the fire protection area meets the above criteria."

The needed length of an aerial ladder, an elevating platform and an elevating stream device shall be determined by the height of the tallest building in the ladder/service district (fire protection area) used to determine the need for a ladder company. One storey normally equals at least 3 metres (10 feet). Building setback is not to be considered in the height determination. An allowance is built into the ladder design for normal access. The maximum height needed for grading purposes shall be 30.5 metres (100 feet).

Exception: When the height of the tallest building is 15.2 metres (50 feet) or less no credit shall be given for an aerial ladder, elevating platform or elevating stream device that has a length less than 15.2 metres (50 feet). This provision is necessary to ensure that the water stream from an elevating stream device has additional "reach" for large area, low height buildings, and the aerial ladder or elevating platform may be extended to compensate for possible topographical conditions that may exist. See Fire Underwriters Survey - Table of Effective Response (attached).

Furthermore, please find the following information regarding communities' need for aerial apparatus/ladder companies within the National Fire Protection Association.

NFPA

Response Capabilities: The fire department should be prepared to provide the necessary response of apparatus, equipment and staffing to control the anticipated routine fire load for its community.

NFPA *Fire Protection Handbook, 20th Edition* cites the following apparatus response for each designated condition:

HIGH-HAZARD OCCUPANCIES (schools, hospitals, nursing homes, explosive plants, refineries, high-rise buildings, and other high-risk or large fire potential occupancies):

*At least four pumpers, **two ladder trucks** (or combination apparatus with equivalent capabilities), two chief officers, and other specialized apparatus as may be needed to cope with the combustible involved; not fewer than 24 firefighters and two chief officers.*

MEDIUM-HAZARD OCCUPANCIES (apartments, offices, mercantile and industrial occupancies not normally requiring extensive rescue or firefighting forces):

*At least three pumpers, **one ladder truck** (or combination apparatus with equivalent capabilities), one chief officer, and other specialized apparatus as may be needed or available; not fewer than 16 firefighters and one chief officer.*

LOW-HAZARD OCCUPANCIES (one-, two-, or three-family dwellings and scattered small businesses and industrial occupancies):

At least two pumpers, one ladder truck (or combination apparatus with equivalent capabilities), one chief officer, and other specialized apparatus as may be needed or available; not fewer than 12 firefighters and one chief officer.

In addition to the previous references, the following excerpt from the 2006 BC Building Code is also important to consider when selecting the appropriate level of fire department response capacity and building design requirements with regard to built-in protection levels (passive and active fire protection systems).

Excerpt: National Building Code 2012

A-3 Application of Part 3.

In applying the requirements of this Part, it is intended that they be applied with discretion to buildings of unusual configuration that do not clearly conform to the specific requirements, or to buildings in which processes are carried out which make compliance with particular requirements in this Part impracticable. The definition of "building" as it applies to this Code is general and encompasses most structures, including those which would not normally be considered as buildings in the layman's sense. This occurs more often in industrial uses, particularly those involving manufacturing facilities and equipment that require specialized design that may make it impracticable to follow the specific requirements of this Part. Steel mills, aluminum plants, refining, power generation and liquid storage facilities are examples. A water tank or an oil refinery, for example, has no floor area, so it is obvious that requirements for exits from floor areas would not apply. Requirements for structural fire protection in large steel mills and pulp and paper mills, particularly in certain portions, may not be practicable to achieve in terms of the construction normally used and the operations for which the space is to be used. In other portions of the same building, however, it may be quite reasonable to require that the provisions of this Part be applied (e.g., the office portions). Similarly, areas of industrial occupancy which may be occupied only periodically by service staff, such as equipment penthouses, normally would not need to have the same type of exit facility as floor areas occupied on a continuing basis. It is expected that judgment will be exercised in evaluating the application of a requirement in those cases when extenuating circumstances require special consideration, provided the occupants' safety is not endangered.

The provisions in this Part for fire protection features installed in buildings are intended to provide a minimum acceptable level of public safety. It is intended that all fire protection features of a building, whether required or not, will be designed in conformance with good fire protection engineering practice and will meet the appropriate installation requirements in relevant standards. Good design is necessary to ensure that the level of public safety established by the Code requirements will not be reduced by a voluntary installation.

Firefighting Assumptions

The requirements of this Part are based on the assumption that firefighting capabilities are available in the event of a fire emergency. These firefighting capabilities may take the form of a paid or volunteer public fire department or in some cases a private fire brigade. If these firefighting capabilities are not available, additional fire safety measures may be required.

Firefighting capability can vary from municipality to municipality. Generally, larger municipalities have greater firefighting capability than smaller ones. Similarly, older, well established municipalities may have better firefighting facilities than newly formed or rapidly growing ones. The level of municipal fire protection considered to be adequate will normally depend on both the size of the municipality (i.e., the number of buildings to be protected) and the size of buildings within that municipality. Since larger buildings tend to be located in larger municipalities, they are generally, but not always, favoured with a higher level of municipal protection.

Although it is reasonable to consider that some level of municipal firefighting capability was assumed in developing the fire safety provisions in Part 3, this was not done on a consistent or defined basis. The requirements in the Code, while developed in the light of commonly prevailing municipal fire protection levels, do not attempt to relate the size of building to the level of municipal protection. **The responsibility for controlling the maximum size of building to be permitted in a municipality in relation to local firefighting capability rests with the municipality. If a proposed building is too large, either in terms of floor area or building height, to receive reasonable protection from the municipal fire department, fire protection requirements in addition to those prescribed in this Code, may be necessary to compensate for this deficiency.** Automatic sprinkler protection may be one option to be considered.

Alternatively, the municipality may, in light of its firefighting capability, elect to introduce zoning restrictions to ensure that the maximum building size is related to available municipal fire protection facilities. This is, by necessity, a somewhat arbitrary decision and should be made in consultation with the local firefighting service, who should have an appreciation of their capability to fight fires.

The requirements of Subsection 3.2.3. are intended to prevent fire spread from thermal radiation assuming there is adequate firefighting available. It has been found that periods of from 10 to 30 minutes usually elapse between the outbreak of fire in a building that is not protected with an automatic sprinkler system and the attainment of high radiation levels. During this period, the specified spatial separations should prove adequate to inhibit ignition of an exposed building face or the interior of an adjacent building by radiation. Subsequently, however, reduction of the fire intensity by firefighting and the protective wetting of the exposed building face will often be necessary as supplementary measures to inhibit fire spread.

In the case of a building that is sprinklered throughout, the automatic sprinkler system should control the fire to an extent that radiation to neighbouring buildings should be minimal. Although there will be some radiation effect on a sprinklered building from a fire in a neighbouring building, the internal sprinkler system should control any fires that might be ignited in the building and thereby minimize the possibility of the fire spreading into the exposed building. NFPA 80A, "Protection of Buildings from Exterior Fire Exposures," provides additional information on the possibility of fire spread at building exteriors.

The water supply requirements for fire protection installations depend on the requirements of any automatic sprinkler installations and also on the number of fire streams that may be needed at any fire, having regard to the length of time the streams will have to be used. Both these factors are largely influenced by the conditions at the building to be equipped, and the quantity and pressure of water needed for the protection of both the interior and exterior of the building must be ascertained before the water supply is decided upon. Acceptable water supplies may be a public waterworks system that has adequate pressure and discharge capacity, automatic fire pumps, pressure tanks, manually controlled fire pumps in combination with pressure tanks, gravity tanks, and manually controlled fire pumps operated by remote control devices at each hose station.

For further information regarding the acceptability of emergency apparatus for fire insurance grading purposes, please contact:

Western Canada	Quebec	Ontario	Atlantic Canada
Fire Underwriters Survey	Fire Underwriters Survey	Fire Underwriters Survey	Fire Underwriters Survey
3999 Henning Drive	255, boul. Crémazie E	175 Commerce Valley Drive, West	238 Brownlow Avenue, Suite 300
Burnaby, BC V5C 6P9	Montreal, Quebec H2M 1M2	Markham, Ontario L3T 7P6	Dartmouth, Nova Scotia B3B 1Y2
1-800-665-5661	1-800-263-5361	1-800- 268-8080	1-877-634-8564