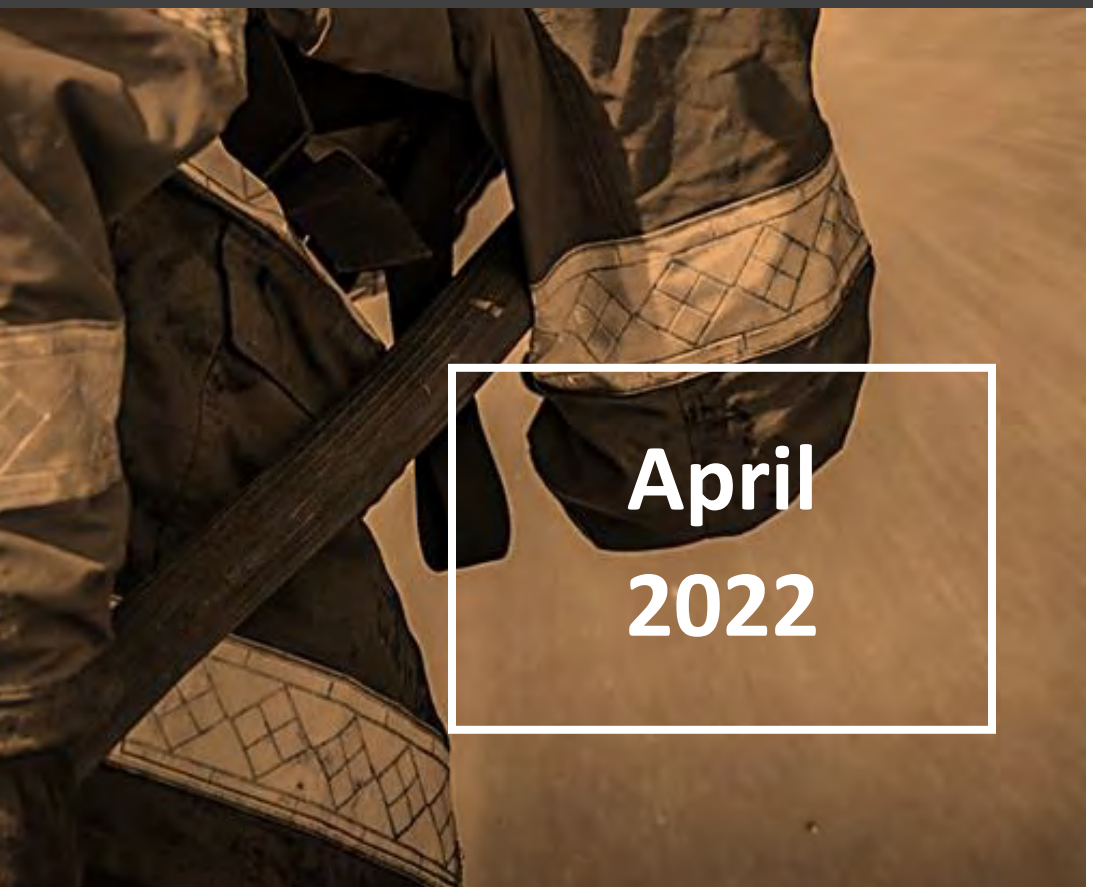
THE TOWNSHIP OF LAKE OF BAYS & THE TOWN OF HUNTSVILLE

Fire Master Plan



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OVERVIEW

Master planning is a process of identifying a fire department's strategy and future direction, along with assisting the department in making decisions to more efficiently allocate its resources to pursue this strategy. This Fire Master Plan (FMP), created for the Huntsville-Lake of Bays Fire Department (HLBFD), consists of a review of the community and the fire department, and an identification of present and future population statistics.

A review of past and present service levels was completed, keeping in mind the overall goals and expectations of the department. This has resulted in a set of 38 recommendations, along with 3 future fire stations location recommendations (that are presented in Appendix D) being provided, within this master plan document. To assist with prioritization and implementation, the recommendations provided by Emergency Management & Training Inc. (EM&T) have been broken down into the following timelines:

- Immediate – should be addressed urgently due to legislative or health and safety requirements
- Short-term – 1 to 3 years
- Mid-term – 4 to 6 years
- Long-term – 7 to 10 years

Ultimately, the implementation of the recommendations will depend on Huntsville and Lake of Bays resources and ability to move forward with the associated recommendations contained within the document.

Through the utilization of best practices, including applicable standards and legislation, this report was prepared by completing an assessment of the following nine areas:

1. Community and Fire Service Overview
2. Planning – future community growth and related service needs
3. Risk Assessment of the community in relation to present and future service requirements
4. Fire Service Staffing
5. Fire Suppression Services
6. Facilities and Fire Service Agreements
7. Vehicles and Equipment
8. Emergency Management
9. Finance

The Town of Huntsville is serviced by a composite fire department model that consists of two fire stations within the municipal boundary. The Township of Lake of Bays is serviced by a volunteer fire department model that consists of three fire stations within the municipal boundary. Together, these

two fire departments provide fire and life safety to the communities of the Town of Huntsville and the Township of Lake of Bays as the HLBFD.

There are currently 91 highly dedicated fire service personnel (there are vacancies to the approved 110 complement) dispersed throughout the five fire stations. Huntsville and Lake of Bays combines its suppression resources, and the day-to-day administration, prevention, training, and operations are managed by Huntsville's fire chief, who is supported by a full-time deputy fire chief and fire prevention officer, along with a training officer, a mechanical officer, and an executive assistant.

HLBFD responds to approximately 700 calls for service per year. These incidents include, but are not limited to, fire-related incidents, medical assist, and motor vehicle collisions. These calls for service can equate to well over 1,000 vehicle movements annually as more than one fire department vehicle may be dispatched from either the same or another fire station to calls based on the severity of the incident and resource requirements.

To ensure that they are meeting the needs of the community and their staff, the fire chief and both Huntsville and Lake of Bays councils recognize that it is necessary to conduct this FMP to provide high-quality fire services to the residents, visitors, and businesses of the community.

In addition, based on the information received during meetings, along with a review of supplied documentation and reference to industry standards and best practices, EM&T was able to identify areas for efficiencies and possible cost savings for consideration by the fire chief and council to guide HLBFD into the future.

Categories, Efficiencies and Quick Reference Chart

The following summarizes some of the recommended efficiencies. And to assist with categorization and implementation, the recommendations provided by EM&T have been broken down into the following four categories:

- **Governance** (G) – documents and by-laws that affect the operation of the fire department
- **Financial** (F) – positive financial impacts and considerations, along with future focus initiative
- **External** (E) – stakeholders/community service
- **Internal** (I) – stakeholders/administration (also includes human resources allocation; fleet/facilities modernization, and disaster resilience)

Along with the noted categories, notations have been made within each recommendation as to whether the recommendation is for consideration by the Town of Huntsville, the Township of Lake of Bays, both communities or the Huntsville/Lake of Bays Fire Department (HLBFD).

Ultimately, the implementation of the recommendations will depend on Huntsville and Lake of Bays resources and ability to move forward with the associated recommendations contained within the document.

In general, the efficiencies, revenue generation and/or cost savings are related to the following key points:

Governance (G) – *documents and by-laws that affect the operation of the fire department.*

- Establishing and Regulating By-law update – this document sets out the expectations of council relating the organization and operation of the fire department. By being more specific in the services and expectations of the fire department two key efficiencies will be recognized.
    - The first being a more defined level of operation will create a validated need for equipment and training. Currently, the department trains for an "all hazards" concept which is quite common in the industry. Ultimately, this "all hazards" response can equate to a fire department taking on more than it may need to do.
    - Defining the specific services to be offered by the fire department will create a more focused level of training, along with what specific equipment is required.
- Review of burning by-laws and set fines, will help to identify areas for permit fees, along with collection of fines levied on those who contravene a by-law.
    - The utilization of a collection agency such as Marquee, has resulted in increased revenue for many municipalities and this is something that HLBFD should investigate further.

Financial (F) – *positive financial impacts and considerations, along with future focused initiatives.*

- Station amalgamation relating to the Lake of Bays stations #2 and #3. Although the building of a new fire station is a large cost. By liquidating (selling off) the present two fire stations and putting the proceeds towards this new future station. The overall construction costs will be reduced.
    - The anticipated (long range) outcome would be a reduction in operating costs (with only one station) with an associated reduction in fire apparatus.
        - A savings of one less fire truck can equate to a possible savings of $500,000.00. Not to mention any ongoing repairs and equipment needs for that one vehicle.
    - The station amalgamation would also create a more fulsome response by the volunteer firefighters assigned to the present Stations 2 & 3, as they would be assigned to respond from the one fire station.
- Long range option – that the current Huntsville Station #1 be relocated on Hanes Road in Huntsville.

- If approved, the Town of Huntsville could initiate dialogue with the developer that owns land on Hanes Road across from the paramedic station for the purpose of building of an emergency service hub.
- Town of Huntsville could then liquidate the property the current Station #1 is located at, and those funds be put towards the costs of the new facility.
- Creating an emergency services hub will find savings for the partners based on a reduction of operating costs (through the shared agreement). Or at the very least, create a revenue base by renting out space to emergency services partners.

External (E) – *stakeholders/community service*

- Working with community stakeholders, the HLBFD identify future opportunities for station co-locations within the community. Such shared facilities that have a fire station on the first floor with offices and/or apartments above have been created in several communities in Canada and the US.
  - There is a cost savings for the fire department in relation to construction of the building. The amount of savings would depend greatly on the agreement, size of the project and space requirements of the fire department.
- That the Municipal Forest Fire Management Agreement be updated.
  - This will better define/update the responsibilities or each party, which in turn will define equipment and training needs for the HLBFD.
- HLBFD is party to a variety of agreements with other communities, for example, automatic aid agreements to respond to calls in other communities. These agreements need to be reviewed to ensure that proper cost recovery by Huntsville/Lake of Bays is adequate for the services provided.

Internal (I) – *stakeholders/administration (also includes human resources allocation; fleet/facilities modernization, and disaster resilience)*

- Emergency Management – both Huntsville and Lake of Bays emergency management coordinators to develop joint exercises.
  - The two communities have a shared fire department. And based on this, creating a more shared emergency management program could in fact reduce the number of personnel required to manage the program for both communities. At the very least it will create a more efficient utilization of present resources.
- The fire department should review the fleet in relation to response needs and future purchases.
  - As an example, if a pumper truck is to be replaced, there is an option of purchasing a used vehicle at a much-reduced cost. Instead of paying $500,000.00 or more for a new pumper truck, a used one with only a couple of years of service on it, could be purchased for less than half the cost of a new truck. An estimated savings could be in the realm of $200,000.00 (or more) per truck.

Overall, it was found that the HLBFD has been operated on such a cost-effective/lean budget over the years, that actual financial savings were not easily identifiable. Having said this both communities, the fire chief and staff should be commended for this financial prudence, in their efforts to offer the best service to the community by using funds as efficiently as possible.

Note: A quick reference chart containing all 38 recommendations can be found in Section 11.

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DEFINITIONS

Immediate	Recommendations that should be addressed urgently due to the legislative or health and safety requirements or operationally critical needs
Short-term	Recommendations that should be addressed within 1 – 3 years
Mid-term	Recommendations that should be addressed within 4 – 6 years
Long-term	Recommendations that should be addressed within 7 – 10 years
ASHER	Active Shooter/Hostile Event Response [Program]
AVL	Automatic Vehicle Locators
BLS	Basic Life Support
CAD	Computer Aided Dispatch
CAR	Canadian Aviation Regulations
CEMC	Community Emergency Management Coordinator
CERB	Central Emergency Reporting Bureau
CRA	Community Risk Assessment
CRTC	Canadian Radio-television and Telecommunications Commission
DPG	Dwelling Protection Grade
E&R	Establishing & Regulating [By-law]
EAP	Employee Assistance Program
EMCPA	Emergency Management & Civil Protection Act
EM&T	Emergency Management & Training Inc.
EOC	Emergency Operation Centre
ERP	Emergency Response Plan
EVT	Emergency Vehicle Technician
FESO	Fire and Emergency Services Organization
FFPA	Forest Fires Prevention Act
FI	Fire Inspector
FMP	Fire Master Plan
FPO	Fire Prevention Officer
FPPA	Fire Protection and Prevention Act
FUS	Fire Underwriters Survey
GIS	Geographic Information System
GPS	Global Positioning System
GVRW	Gross Vehicle Ratio Weight
HFSC	Home Fire Sprinkler Coalition
HLBFD	Huntsville-Lake of Bays Fire Department
IMS	Incident Management System
KPI	Key Performance Indicator(s)

LOB	Lake of Bays
MNRF	Ministry of Natural Resources and Forestry
MPS	Muskoka Paramedic Services
MTO	Ministry of Transport
NIOSH	National Institute for Occupational Safety & Health
NIST	National Institute of Standards and Technology
NFPA	National Fire Protection Association
OAFC	Ontario Association of Fire Chiefs
OFMEM	Ontario Fire Marshal's Office and Emergency Management
OHSA	Ontario Health and Safety Act
OPP	Ontario Provincial Police
OSI	Occupational Stress Injuries
PFLSE	Public Fire Life Safety Educator
PFPC	Public Fire Protection Classification
PFSG	Public Fire Safety Guideline
PTSD	Post-Traumatic Stress Disorder
RTC	Regional Training Centre
RTT	Real Time Texting
SCBA	Self-Contained Breathing Apparatus
SDS	Safety Data Sheets
SOG	Standard Operating Guideline
SOP	Standard Operating Policy
SRA	Simplified Risk Assessment
SSV	Special Service Vehicles
STA	Short-term Accommodations
SWOT	Strength, Weakness, Opportunity, Threats
TIC	Thermal Imaging Camera
TSSA	Technical Safety Standards Authority
VFIS	Volunteer Firemen's Insurance Services
WSIB	Workplace Safety & Insurance Board

INTRODUCTION

INTRODUCTION

Review Process

Emergency Management & Training Inc. (EM&T) has based its review process on the initial Request for Proposal (RFP) and the response document submitted by our team. The specific scope of work was reviewed with the client at project commencement. The Fire Master Plan (FMP) review was completed by utilizing best practices, current industry standards, and applicable legislation as the foundation for all work undertaken. EM&T also used both quantitative and qualitative research methodologies to develop an understanding of current and future needs and circumstances of the community.

Scope of Requirements

The following generally describes the responsibilities of the Consultant. The FMP is to include a high-level review, long-term planning, and recommendations, where appropriate, on the following key areas:

- Governance including by-laws, policies, procedures, provincial and federal legislation
- Administration
- Service delivery
- Emergency response including mutual aid, automatic aid, and fire protection agreements
- Fire prevention including public education, inspections, enforcement, and investigations
- Fire suppression and rescue operations
- Training and education
- Firefighter safety, health, and wellness
- Fire station facility and location with response and cover mapping
- Apparatus and equipment
- Assessment of existing fire service facilities, equipment, and assets
- Maintenance program for apparatus and equipment
- Emergency management program
- Human resources/ leadership including staffing, organizational chart, workload, recruitment and retention, succession planning, promotional processes, etc.
- Reporting structure and requirements
- Finance/ budget, including operational, capital, and reserve budgets, and development charges
- Potential revenue generation strategies
- Opportunities for innovative solutions

To accomplish the scope of requirements, EM&T:

- Reviewed the Establishing & Regulating by-law.
- Reviewed applicable municipal, provincial, and federal legislations.
- Reviewed planning department documents regarding community and areas of jurisdiction growth projections over the next 10-20 years.
- Reviewed the Simplified Risk Assessment, previous FMP, council's strategic priorities, and other pertinent documents.
- Reviewed the Community Risk Profile including community building stock, industry, care occupancies, transportation networks, etc.
- 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 for tends, 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 and 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 compare industry best practices relating to fire and emergency services performance measurement.
- Reviewed current job descriptions, 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 fire department and the municipalities (development fees).

Based on the previously noted criteria including meetings with the fire chief and other stakeholders, along with a review of fire service data (supplied by HLBFD), EM&T was able to complete a thorough review of elements that are working well and areas requiring improvement.

Performance Measures and Standards

This MFP has been based upon (but not limited to) Key Performance Indicators (KPI) that have been identified in national standards and safety regulations such as:

- The Ontario Fire Marshal's Office and Emergency Management (OFMEM) Public Fire Safety Guidelines and Communiques.
- *The Fire Prevention and Protection Act* and its subordinate regulations, including the Ontario Fire Code O. Reg 213/07, Mandatory Assessment of Complaints and Requests for Approval O. Reg 365/13, and Mandatory Inspection – Fire Drill in Vulnerable Occupancy O. Reg 364/13.
- The *Ontario Health and Safety Act*, with reference to the National Institute for Occupational Safety and Health (NIOSH).
- Ontario Fire Service – Section 21 Guidelines:
    - The Section 21 Committee is based on Section 21 of the *Ontario Occupational Health and Safety Act*. This committee is charged with reviewing industry safety concerns and developing recommended guidelines to reduce injuries for the worker.
- The National Fire Protection Association (NFPA) standards:
    - NFPA 1001 – Standard for Fire Fighter Professional Qualifications
    - NFPA 1002 – Standard for Fire Apparatus Driver/ Operator Professional Qualifications
    - NFPA 1021 – Standard for Fire Officer Professional Qualifications
    - NFPA 1031 – Standard for Professional Qualifications for Fire Inspector and Plan Examiner
    - NFPA 1033 – Standard for Professional Qualifications for Fire Investigator
    - NFPA 1035 – Standard on Fire and Life Safety Educator, Public Information Officer, Youth Fire Setter Intervention Specialist and Youth Fire Setter Program Manager Professional Qualifications
    - NFPA 1041 – Standard for Fire Service Instructor Professional Qualifications
    - NFPA 1061 - Professional Qualifications for Public Safety Telecommunications Personnel

  - NFPA 1072 – Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications
  - NFPA 1201 – Standard for Providing Fire and Emergency Services to the Public
  - NFPA 1221 – Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems
  - NFPA 1500 – Standard on Fire Department Occupational Safety, Health, and Wellness Program
  - NFPA 1521 – Standard for Fire Department Safety Officer Professional Qualifications
  - NFPA 1720 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Volunteer Fire Departments
  - NFPA 1730 – Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations
  - NFPA 1901 – Standard for Automotive Fire Apparatus
  - NFPA 1911 – Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles
- Fire Underwriters Survey (FUS) technical documents

It should be noted that many of the previously listed documents are not legislated. However, they are viewed as industry best practices and for information purposes only. If a document is legislated, EM&T has made note of any such requirement (within the body of this report).

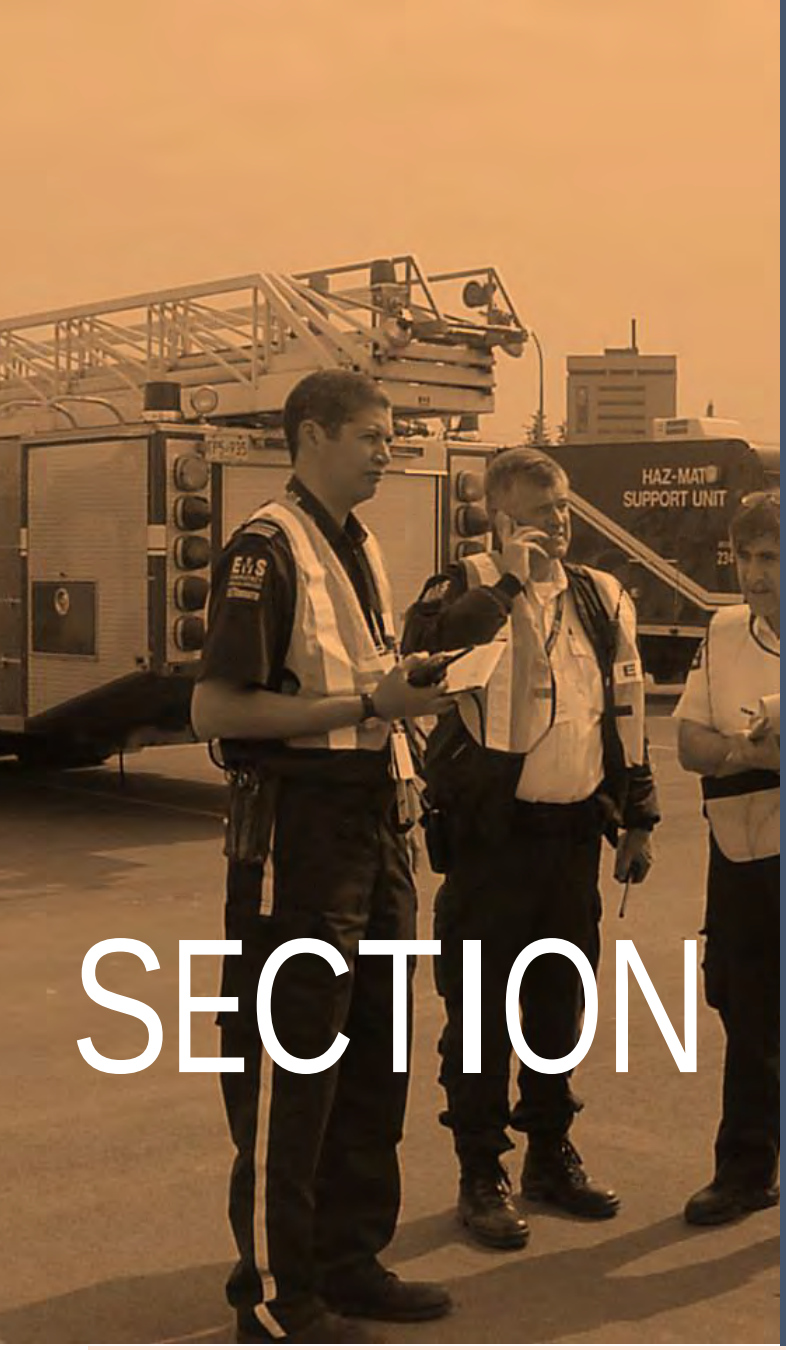
Project Consultants

Although several staff at EM&T were involved in the collaboration and completion of this Plan, the overall review was conducted by – names are listed by level of involvement:

- Phil Dawson, Fire Service Consultant – Project Lead
- Rick Monkman, Fire Service Consultant
- Richard Hayes, Fire Service Consultant
- Darryl Culley, President
- Lyle Quan, Vice President of Operations

Together, the team has amassed a considerable amount of expertise in all areas of fire and emergency services program development, review, and training, amounting to 150 years of experience. The EM&T team has worked on projects that range from fire service and municipal

reviews, creation of strategic plans and FMPs, and development of emergency response programs for clients.



SECTION 1

Community & Fire Department Overview

1.1 Community Overview

1.2 Fire Service Composition

1.3 Governance and E&R By-Law

1.4 Assessment of Current Fire Services By-Law

SECTION 1: COMMUNITY & FIRE DEPARTMENT OVERVIEW

This FMP for HLBFD analyses and identifies current and probable community fire risks and needs based on a 10-year focus. This will greatly assist the fire chief with future planning relating to staffing and response, fire and life safety programming, and asset management. To ensure a comprehensive review is conducted, this review has examined and researched all aspects of HLBFD operations including planning, fire prevention, training and education, communications, apparatus and equipment, human resources, station suitability and location, and large-scale emergency preparedness.

1.1 Community Overview

Lake of Bays

The Township of the Lake of Bays is a municipality within the District of Muskoka. The municipality was formed in 1971 by several communities including the Townships of Franklin, Ridout, and Sinclair/ Finlayson as one of six municipalities forming the Municipal District of Muskoka.[1] It is located in the northeast corner of Muskoka covering 678 km^2 and with a full-time population of 3,167 (2016 census)[2]. The Lake of Bays is primarily rural and offers a natural landscape of forests, rocks, lakes, and wetlands. It is an important cottaging, recreation, and tourism destination in Ontario. Currently, the economy is primarily on tourism, recreation, and the service sector with forestry and aggregate extraction contributing to the economy as well.

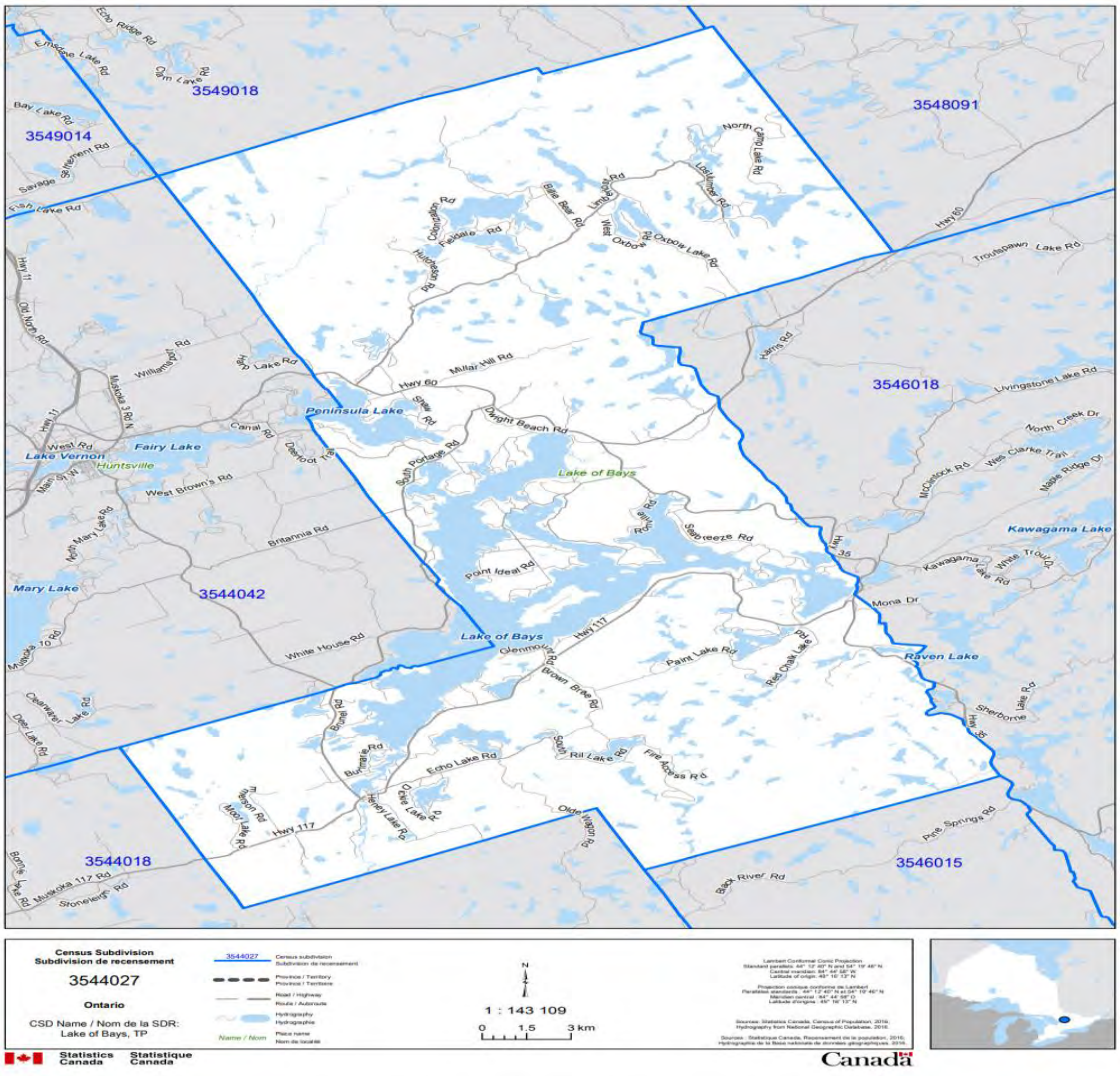
Several small communities continue to make up the Township such as Baysville, Bigwin, Birkendale, Bona Vista, Bondi Village, Britannia, Brooks Mills, Browns Brae, Dorset, Dwight, Fox Point, Greenmount, Grandview, Grassmere, Grove Park, Hillside, Limberlost Lodge, Maple Ridge, Millar Hill (ghost town), Nith Grove, North Portage, Norway Point, Port Cunnington, Sea Breeze, South Portage, and Wahawin.[3] Lake of Bays is located in the hilly terrain of the Canadian Shield and is dotted with many lakes.

There are several large bodies of water and numerous smaller lakes located within its boundaries. The lakes include the Lake of Bays, Cooper Lake, Ellis Lake, Peninsula Lake, Rusynyk Lake and Tackaberry

[1] "Lake of Bays," Wikipedia, last modified August 20, 2021, https://en.wikipedia.org/wiki/Lake_of_Bays
[2] "Census Profile, 2016 Census," Statistics Canada, last modified Oct 27, 2021, https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3544027&Geo2=PR&Code2=35&SearchText=Lake%20of%20Bays&SearchType=Begins&SearchPR=01&B1=All&GeoLevel=PR&GeoCode=3544027&TABID=1&type=0
[3] Wikipedia, https://en.wikipedia.org/wiki/Lake_of_Bays

Lake and Ferry Lake.[4] The main employer is of the tourism sector with small industries such as Axiom Audio.

FIGURE #1: Map of Lake of Bays



[5]

[4] Wikipedia, https://en.wikipedia.org/wiki/Lake_of_Bays

[5] "Map: Lake of Bays, Township [Census subdivision], Ontario, https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3544027&Geo2=PR&Code2=35&SearchText=Lake%20of%20Bays&SearchType=Begins&SearchPR=01&B1=All&GeoLevel=PR&GeoCode=3544027&TABID=1&type=0#map-popup

Huntsville

The Town of Huntsville is a municipality within the District of Muskoka, with a population of 19,816 (2016 census)[6] and encompassing 710 km^2.[7] The municipality was formed by a number of communities including Allenville, Ashworth, Aspdin, Britannia Road, Canal, Centurion, Etwell, Grassmere, Hidden Valley, Hoodstown, Ilfracombe, Lancelot, Martins, Melissa, Muskoka Lodge, Newholm, Norvern Shores, Parkersville, Port Sydney, Ravenscliffe, Stanleydale, Utterson, Vernon Shores, Williamsport and Yearley as well as the ghost town, Emberson.[8]

Huntsville is located in the hilly terrain of the Canadian Shield and is dotted with many lakes. The community is largely rural, with a small urban region located in the town proper. Due to the natural environment and resources, Huntsville is a tourist destination drawing people from around the world.

There are three larger bodies of water and numerous smaller lakes located within the Town of Huntsville's boundaries. The three larger lakes are Lake Vernon, Mary Lake and Ferry Lake. The main employers include Kimberly Clark, Infra Pipe Solutions, and the Trillium Lakelands School Board. Several the residents are employed in the hospitality industry in one form or another.[9]

Being in proximity to the Great Lakes, its climate has defined seasons. January is the coldest month with an average temperature of -16˚C and a high of -5° C. January is also known to be the windiest month with an average wind speed of 24.2 km/hr. The warmest month is July with an average temperature of 24˚C. The wettest month is centered around September 23rd with an average total of 62 mm.[10]

[6] "Census Profile, 2016 Census", Statistics Canada, last modified October 27, 2021, https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3544042&Geo2=PR&Code2=35&SearchText=Huntsville&SearchType=Begins&SearchPR=01&B1=All&GeoLevel=PR&GeoCode=3544042&TABID=1&type=0

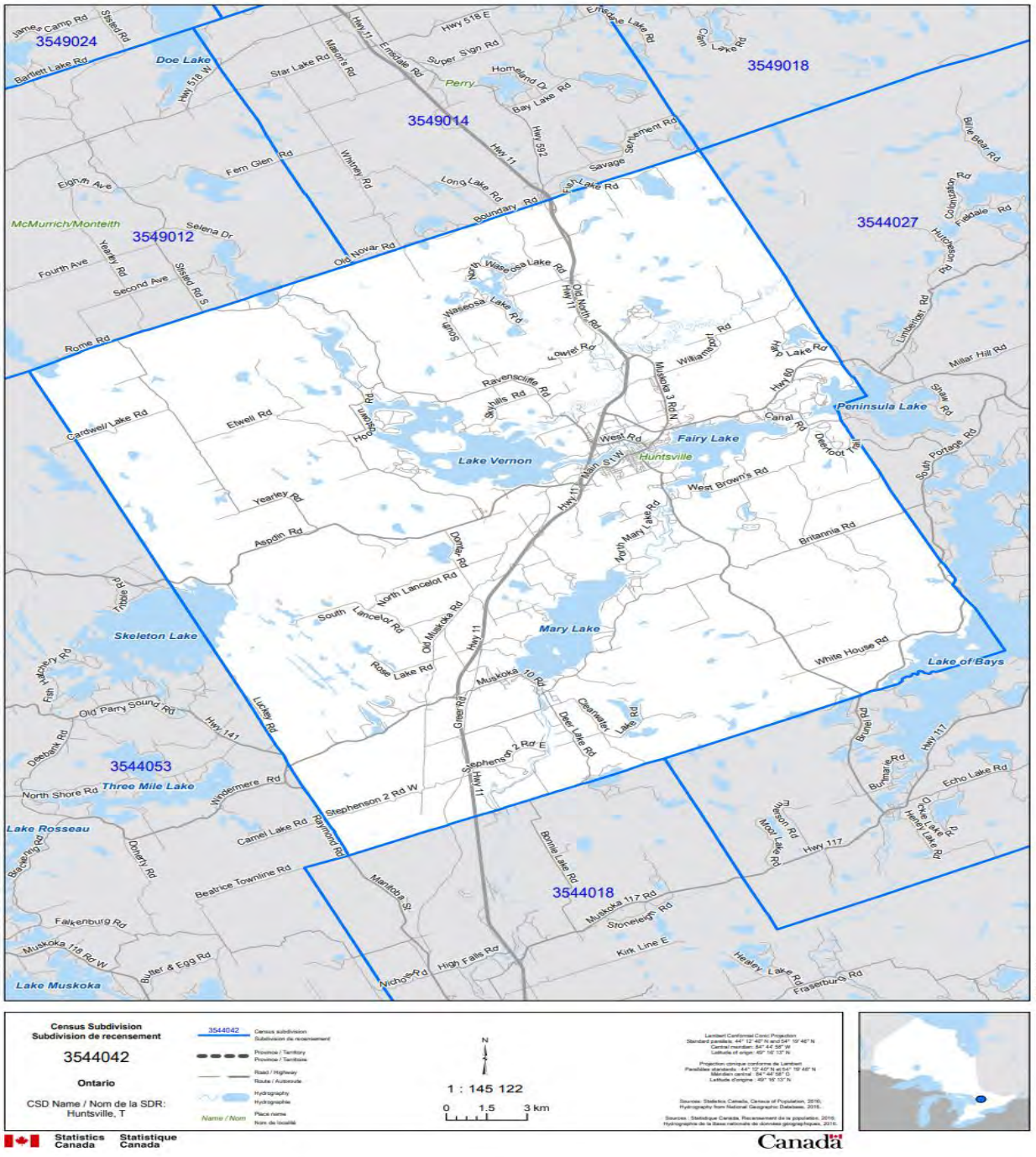
[7] "Huntsville, Ontario", Wikipedia, last modified November 1, 2021, https://en.wikipedia.org/wiki/Huntsville,_Ontario

[8] Wikipedia, https://en.wikipedia.org/wiki/Huntsville,_Ontario

[9] Wikipedia, https://en.wikipedia.org/wiki/Huntsville,_Ontario

[10] "Average Temperature in Huntsville", Weather Spark,

FIGURE #2: Map of Huntsville



[11]

[11] "Map: Huntsville, Town [Census subdivision], Ontario, https://www12.statcan.gc.ca/census-recensement/geo/maps-cartes/pdf/A0005/2016A00053544042.pdf

1.2 Fire Service Composition

Huntsville-Lake of Bays Fire Department (HLBFD)

The Town of Huntsville and the Township of Lake of Bays operate fire departments, that are managed by the Huntsville fire chief under an agreement between the two municipalities. The current agreement is dated August 2012. While both municipalities continue to operate fire services and manage the associated facilities and equipment, the agreement allows the Town of Huntsville to provide management, administration, training, and fire prevention services in exchange for financial compensation.

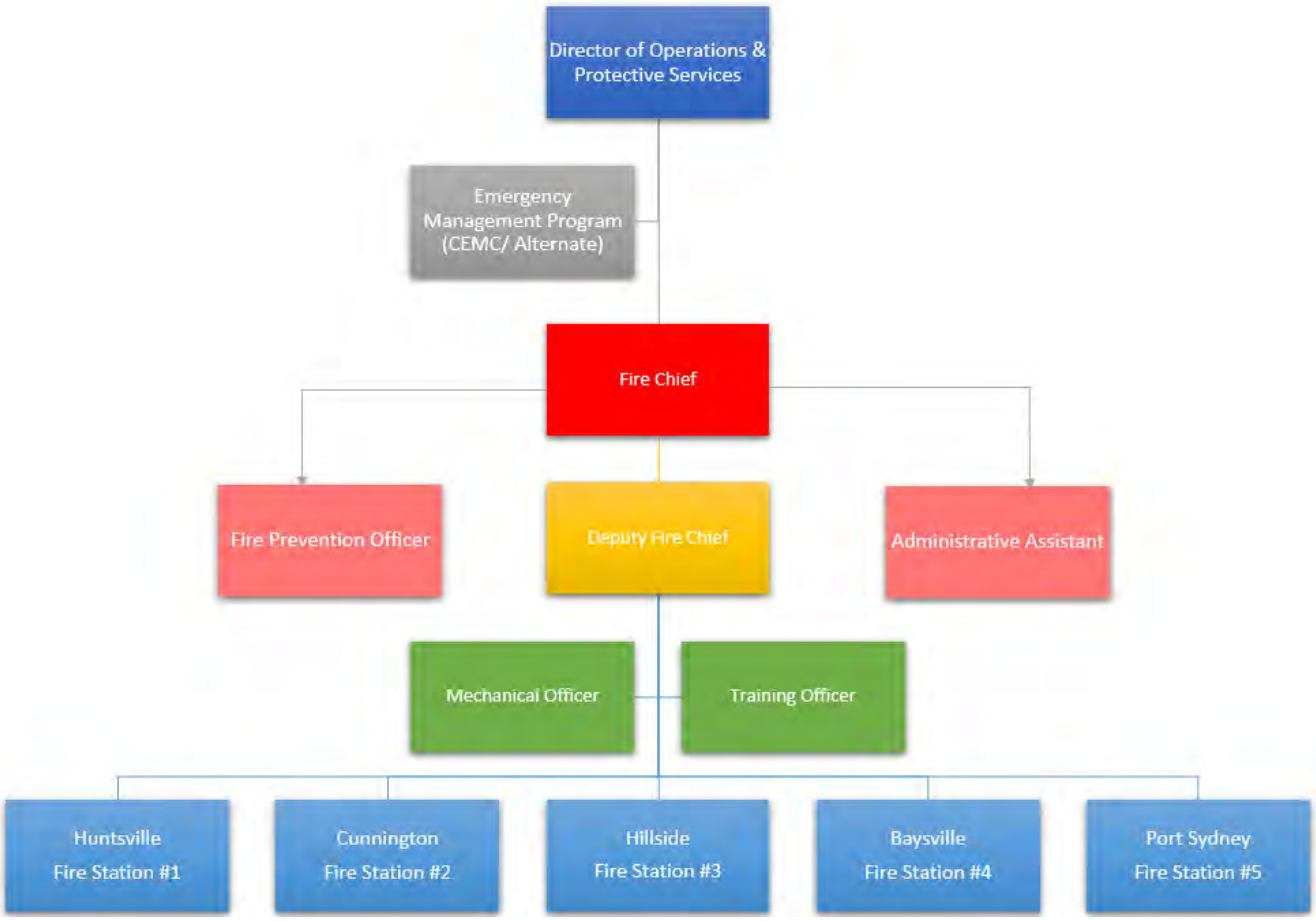
The departments operate under common standard operating guidelines (SOGs) and respond to all fire emergency calls within the boundaries of both communities. The agreement between both parties commences with an introduction that notes, "This agreement is intended to provide services related to the administration and oversight of the operation of the Lake of Bays fire protections services effectively, efficiently, and safely through a co-operative and flexible approach to benefit the inhabitants of both municipalities. Ultimately, this program will improve the level of public safety to inhabitants of Lake of Bays and of the Town of Huntsville."[12]

The Establishing & Regulating By-Laws for both municipalities recognize the municipal responsibilities while naming the fire department as the Huntsville-Lake of Bays Fire Department.

Combined, the HLBFD currently employs just over 100 volunteer firefighters, in addition to the five full-time personnel employed by Huntsville.

[12] The Corporation of the Township of Lake of Bays and the Corporation of the Town of Huntsville, *Fire Department Administration Services Agreement,* (August 2012).

FIGURE #3: HLBFD Organizational Chart



HLBFD currently operates out five fire stations, three in the Township of Lake of Bays, and two in the Town of Huntsville. Combined there are a total of 15 fire apparatus, as well as several utility vehicles, ATV units and boats.

From 2015 to 2020, there was an average annual call for service of 644 responses, with 244 originating from the Township of Lake of Bays and 400 originating from the Town of Huntsville.

TABLE #1: Annual Calls for Service 2015 to 2020

	2015	2016	2017	2018	2019	2020	Averages
Lake of Bays	261	222	279	246	193	260	**244**
Huntsville	395	384	373	493	349	405	**400**

These calls range from fires, medical assists, motor vehicle collisions, highway traffic and road conditions, etc.

HLBFD operates out of five fire stations (see Section 6 for further detail):

- Station 1 – 1 Payne Drive in Huntsville
- Station 2 – 1230 Fox Point Road (Muskoka Road 21) in Port Cunnington
- Station 3 – 1007 Limberlost Road (Muskoka Road 8) in Hillside
- Station 4 – 12 University Street in Baysville
- Station 5 – 346 Muskoka Road 10 in Post Sydney

1.3 Governance and Establishing & Regulating By-law

HLBFD is enacted by by-laws from the Township of Lake of Bays and the Town of Huntsville municipalities. These by-laws are sister documents enacting the fire department under each municipal jurisdiction. The authority to enact the fire department comes through the *Municipal Act, 2001, S.O. 2001, c.25* and the *Fire Protection and Prevention Act, 1997, S. O.1996, c.4*. The Lake of Bays By-Law was enacted September 2016, and the Town of Huntsville was enacted October 2016.

The Establishing & Regulating By-Laws (E&R) are council's direction to the HLBFD and prescribe what services to provide. It is the municipal council's responsibility to set the level of service within a municipality; these E&R by-laws fulfil this requirement.

These E&R by-laws are relatively current. It is recommended that they be reviewed annually, or as significant changes occur to either community, to ensure that the noted service levels, service expectations, and authority of the fire chief are properly aligned with the needs of the community.

As part of any by-law update process, the draft should be vetted through the Township Solicitor prior to going to council.

It is further suggested that consideration be given to bring these E&R by-laws forward to newly sitting councils every four years. This will allow new councillors to understand the level of service provided to the community and council's responsibility to adequately fund this set level of service.

No definitive response time expectation/criteria are noted in the E&R By-laws. The NFPA recommends that some type of assessment be completed to evaluate a baseline for a department's response time goal. This review will offer an understanding of how the Department has been performing, along with identifying areas for possible improvement in relation to station location and vehicle and staffing distribution.

1.4 Assessment of Current Fire Services Related By-Laws

The By-Laws reviewed for this FMP include:

- Open Air Burning By-Law – Lake of Bays & Huntsville
- Fireworks – Lake of Bays (Noise By-Law) & Huntsville

By-Laws of this nature should be reviewed at minimum every five years with recommendation to be brought before council at the beginning of a term of council as an update and with any necessary amendments. This will allow a newly sitting council to understand the full scope of the Fire Department's level of service and commitments related to the Fire Department.

***Note**: even though these by-laws are generally developed and managed by the By-law Department, the HLBFD plays a key role in responding to and perhaps even enforcing (to a degree) the application of the by-laws. Therefore, a review was conducted on these two by-laws.*

Open Air Burning By-law - Lake of Bays

The Open-Air Burning By-Law, being a by-law to prescribe the parameters for outdoor burning within the Township of Lake of Bays 2013-003 was enacted in January 2013 with an amendment to the existing By-Law in March 2013 (2013-032).[13] This amendment was to capture the direction not to burn during a declared fire ban.

The Outdoor Burning By-Law 2013-003 and 2013-032 commence with reference to the *Fire Protection and Prevention Act* (FPPA) Section 7. Upon amendment of this By-Law, it is recommended that the appropriate article be refenced. This article being 7.1(1) both (a) and (b) being relevant.

> Municipal by-laws(1)
>
> 7.1 (1) A council of a municipality may pass by-laws,
>
> (a) regulating fire prevention, including the prevention of the spreading of fires;

[13] Corporation of the Township of Lake of Bays, *By-Law Number 2013-003, Outdoor Burning By-law.*

(b) regulating the setting of open-air fires, including establishing the times during which open air fires may be set;

This By-Law concentrates on two types of open air burning. The first being for recreational use, and the second for non-recreational burning. The recreational burning section is prescriptive providing authority to burn following certain conditions. The non-recreational is of the same format, prescriptive, with allowance of a greater sized fire. The concern between these two types of fires is that a party may wish to have a larger fire for recreational purposes but call it a non-recreational fire. It is recommended that a permit system be investigated for those who wish to burn non-recreationally and for the municipality to control those fires of larger size.

The FPPA does allow for varying rules for different areas of the municipality. This allows for more restrictive measures in areas that are more populated.

Scope(1)

(3) A by-law under this section may deal with different areas of the municipality differently. 2001, c. 25, s. 475 (3).

Being an area managed by the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF) known as the Parry Sound District, under the *Forest Fires Prevention Act* (FFPA), R.S.O. 1990, c. F.24 section, the O. Reg. 207/96: Outdoor Fires, also applies to the municipality. If the area becomes a restricted fire zone through this authority, there could be a requirement for property owners to not burn even if a local burn ban has not been enacted through the local Chief Fire Official.

This *Act* itself denotes in section 12,

Fires in restricted fire zones (2)

12 No person shall start a fire outdoors in a restricted fire zone,
(a) except in accordance with a permit issued under the regulations; or
(b) unless the fire is for the purpose of cooking or obtaining warmth and the fire is in a stove or installation of a kind prescribed by the regulations. 1999, c. 12, Sched. N, s. 3 (1).

Unless an open-air fire is for cooking or obtaining warmth and in a stove or installation noted in the Regulation, a permit would be required if the area was considered a restricted fire zone. As there can be some confusion as to which Act, Regulations, and By-Laws take precedence, it is recommended that the fire chief work with the local MNRF Office, Municipal Clerk, and Legal Counsel to ensure Municipal By-Laws reflect what is required in the *Municipal Act*, the *FPPA*, and the *FFPA*.

With the significance of forest fires and their destructive power aligned to global warming and the likelihood of larger fires, it is further recommended the set fines be amended to higher values. One example of where there could be an increase in set fines is burning during a fire ban. Presently the set fine for burning during and Fire Ban is only $300.00. This is one example of a significant hazard. A higher value, with a significantly higher maximum, would provide the Fire Department with a tool to use for deterring fires during a ban.

Open Air Burning By-law - Huntsville

The Open-Air Burning By-Law 2019-74, being a by-law to prescribe the parameters for Open Air Burning within the Town of Huntsville, was enacted July 2019 and amended with By-Law 2020-51[14]. The amendment provides for restrictions in the use of flying lanterns, fires during a declared restricted fire zone, and updated set fines. The By-Law 2019-74 contains restrictions for recreational and non-recreational open-air burning. In addition to these restrictions this By-Law provides guidance on the setting of fireworks during a time of a fire ban.

The concern between recreational and non-recreational fires is that a party may wish to have a larger fire for recreational purposes but calls it a non-recreational fire. It is recommended that a permit system be investigated for those who wish to burn non-recreationally and for the municipality to control those fires of larger size.

References to the use of a portable stove or barbeque in section 3.5 and 5.1 may be more appropriately defined as referenced in the Ontario Fire Code, O. Reg. 213/07, Division B, Part 2, ss. 2.4.4.

Open-air burning

2.4.4.4. (1) Open-air burning shall not take place unless

(a) it has been **approved**, or

(b) the open-air burning consists of a small, confined fire that is

(i) used to cook food on a grill, barbecue or spit,

(ii) commensurate with the type and quantity of food being cooked, and

(iii) supervised at all times.

(2) Sentence (1) does not apply to the use of an **appliance** that

[14] Corporation of the Town of Huntsville, *By-Law Number 2019-74, Open Air Burning By-Law.*

(a) meets the requirements of the **Technical Standards and Safety Act**, **2000**,

(b) is for outdoor use,

(c) if assembled, has been assembled in accordance with the manufacturer's instructions, and

(d) if installed, has been installed in accordance with the manufacturer's instructions.

Within sections 4.1 and 4.5 there is reference to oral permission for the setting of fires from the Chief Fire Official or their designate. There is a concern and potential liability for the municipality by not having such permission in writing. For example, certain restrictions may be necessary depending on the specific circumstance of a planned fire. Oral permission does not provide the person responsible for the fire with a format to reference to ensure these restrictions are being followed. Should there be an occurrence where fire goes beyond what is planned and the fire department is called, how can the fire chief or designate prove what restrictions were required and if the person responsible was following them? Therefore, a permit system is recommended.

The amended By-Law 2020-51 provides for an increase in set fines. Most of the set fines are fair and comparable to others within the area. However, the devastating effects and strain on the local fire department for fighting fires during fire bans is extreme. Consideration should be given to increasing these fines to the maximum allowable. Further, in review of the set fines the inclusion of a set fine for failure to comply with a lawful order in section 4.4 could be considered.

Fireworks - Lake of Bays

The Township of Lake of Bays captures the discharging of fireworks within the Noise By-Law 2021-029[15].

There are restrictions for discharging fireworks that are commensurate to other jurisdictions within the area. This includes not discharging fireworks during a fire ban and are restricted to certain days of the year and time of day. Schedule B of the By-Law denotes no discharging of fireworks, "…during a fire ban, and year-round, but are allowed on the day of July 1 and ALL other statutory holiday weekends; provided no fire ban is in place: from DUSK until 11 p.m." This By-Law only defines fireworks as the consumer type and no references to display or pyrotechnic fireworks are made.

[15] The Corporation of the Township of Lake of Bays, *By-Law Number 2021-029.*

The set fine for discharging of fireworks during a fire ban is low. As with the other set fine recommendations, consideration should be given to increasing this set fine to the maximum.

In review of the fireworks restrictions, there is some concern that the importance of fire safety may be lost being that this subject is one small part of a much larger noise issue. With the fire safety concerns becoming increasingly more prevalent with longer and dryer seasons, consideration could be given to separating the fireworks restrictions out of the Noise By-Law and placing them into their own Fireworks By-Law, similar in fashion to the Town of Huntsville. Not only will this showcase the fire safety importance, but it will also provide the Fire Department with the ability to publicly educate in a consistent manner. Municipal authority to control fireworks lies within the Ontario Fire Code O. Reg. 213/07, Division B, Part 5, ss 5.2.

Fireworks - Huntsville

The Town of Huntsville manages the discharging of fireworks within a dedicated By-Law 2020-34[16]. This By-Law differentiates between the consumer, display, and pyrotechnic fireworks, as noted in the *Explosives Act, R.S. c. E-15*. While this By-Law provides restrictions for discharging fireworks to only certain days and times in the year, it does not speak to the fire concerns that they pose. Within the Open-Air Burning By-Law, as amended, however, the banning of the discharging of fireworks is noted during a time when a fire ban has been declared.

There is some concern that the importance of fire safety may be lost as this subject is not addressed in the Fireworks By-Law and only captured in a small part within the Open-Air Burning By-Law. It is recommended that increased fire safety focus be added into the either the Fireworks By-Law, the Open-Air By-Law, or both regarding fireworks.

[16] The Corporation of the Town of Huntsville, *By-Law Number 2020-34*.

Recommendation(s)

Rec #	Responsibility	Recommendation	Suggested Timeline
1	HLBFD	The present Establishing & Regulating By-laws be reviewed annually to ensure accuracy in relation to level of services to be provided with that of council's expectations. - And that a presentation to newly sitting councils occur every four years at the commencement of the terms of council. This will allow a new council to understand the full scope of the level of service and commitments related to the Fire Department.	Short-term (1 – 3 years) and ongoing
2	Both Municipalities	Review the implementation of a non-recreational burn permit system to control fires of larger size (both municipalities).	Short-term (1 – 3 years) and ongoing
3	Lake of Bays	Separate the fireworks restrictions from the Noise By-Law and place them into their own Fireworks By-Law similar in fashion to the Town of Huntsville. - Provides for increased fire safety measures within the Fireworks By-Laws.	Short-term (1 – 3 years)
4	Both Municipalities	Open Air Burning By-Laws: - Work with the local MNRF Office, Municipal Clerk, and Legal Counsel to ensure wording in the Open-Air Burning By-Law reflects what is needed for the municipality as authorized from the *Municipal Act, FPPA,* and *FFPA*. - Review the set fine values of the Open-Air Burning By-Law to maximize fines for significant non-compliance.	Short-term (1 – 3 years)

SECTION 2 Planning

2.1 Three Lines of Defence

2.2 NFPA Standards

2.3 FUS

2.4 SWOT

2.5 Focus Group Sessions

2.6 Public Survey

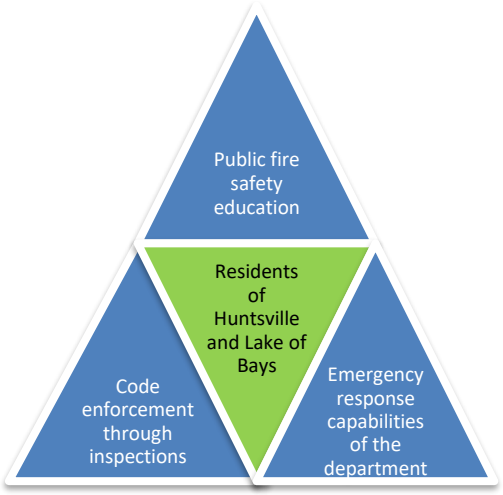
SECTION 2: PLANNING

Planning is a key function of any organization and should be done with a focus on the present needs of the community, coupled with its future growth and how this will affect the service demands on the fire department. The initial phase of such planning efforts is to identify the strengths, weaknesses, opportunities, and threats affecting the department and the community it serves.

2.1 Three Lines of Defence

The OFMEM have identified "Three Lines of Defence" to be utilized by all fire departments in Ontario when planning to meet the needs of the community.

The identified three lines of defence, as noted by the OFMEM, are:



1. **Education** – Fire safety education is the key to mitigating the fire and life hazards before they start. With the growth of the community, how will the municipality continue to meet the fire safety educational needs of the community?
2. **Inspections and Enforcement** – If the public education program does not prove effective, then the next step is for the fire department to enforce fire safety requirements through inspections leading to possible charges under the *FPPA*.
3. **Emergency Response** – If the first two lines of defence fail for whatever reason, the community, through its fire department, should be prepared to respond in an efficient and effective manner to put the fire out and/or mitigate the emergency itself. By evaluating the effectiveness of the fire stations, staff, and equipment, this report will be able to make recommendations for related efficiencies.

In conjunction with the three lines of defence, a key industry standard that outlines goals and expectations for a fire department is the NFPA. These standards are not mandated but do form the foundation of the fire services recommended best practices. These NFPA standards are also utilized by organizations such as the FUS group to conduct their assessments of a fire department and the community. The Provincial Fire Marshal Offices and regional fire schools also use them to form the foundation of their training and evaluation programs.

2.2 National Fire Protection Association (NFPA) Standards

To assist with EM&T's review, reference has been made to a key NFPA standard that identifies the services that should be offered and how they are to be delivered based on the composition of a fire department. NFPA 1201 is the Standard for Providing Fire and Emergency Services to the Public. As already noted, this NFPA Standard (along with other NFPA standards) is not legislated within the Province of Ontario. But they do serve as reference to an industry best practice and followed and applied by many Ontario fire departments when no Provincial legislation is available.

National Fire Protection Association Standard 1201 – Standard for Providing Fire and Emergency Services to the Public

Section 4.3.5 notes:

- The Fire and Emergency Services Organization (FESO) shall provide customer service-oriented programs and procedures to accomplish the following:
    1. Prevent fire, injuries and deaths from emergencies and disasters
    2. Mitigate fire, injuries, deaths, property damage, and environmental damage from emergencies and disasters
    3. Recover from fires, emergencies, and disasters
    4. Protect critical infrastructure
    5. Sustain economic viability
    6. Protect cultural resources

To accomplish this, an FESO must ensure open and timely communications with the chief administrative officer (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.

To provide a fire department clearer focus on what the ultimate goals for emergency response criteria are, the NFPA suggests that response times should be used as a primary performance measure in fire departments. NFPA 1720 refers to goals and expectations for volunteer fire departments and has been incorporated into the evaluation of the HLBFD's response and staffing needs. More discussion in relation to these two standards is covered in sections 4 and 5.

2.3 Fire Underwriters Survey (FUS)

Fire Underwriters Survey (FUS) provides data on public fire protection for fire insurance statistical work and underwriting purposes of subscribing insurance companies. "Subscribers of FUS represent

approximately 85% of the private sector property and casualty insurers in Canada"[17]. The insurance rates are based on the score that a community receives founded on such things as the fire department assessment and community water supply systems. This assessment includes a review of apparatus, distribution of companies/ fire stations, staffing, training, maintenance, pre-incident planning, etc. More information relating to FUS expectations is noted in sections 4 and 5.

2.4 Strengths, Weaknesses, Opportunities, and Threats (SWOT)

The strengths and weaknesses portion of a SWOT analysis are based on an internal review that identifies what is working well, along with recognizing areas for improvement. The opportunities and threats portion of the SWOT are related to external influences and how these influences affect the operations and response capabilities of a fire department. The SWOT analysis provides a helpful "snapshot" of the fire department's current status from which to build on any potential and community-specific recommendations in the FMP.

2.4.1 Strengths

- HLBFD benefits from having already moved to NFPA mandatory certification for new members and officers since 2014.
- In-house Ministry of Transportation Ontario (MTO) Driver Certification Program has been in-place since 2000; to date 80% of firefighters are qualified drivers.
- Fire Prevention enforcement has been strong regarding inspections, resulting in numerous charges.
- Lake of Bays and Huntsville's joint administration of the HLBFD has been positive with council supportive of current and forecasted needs.

2.4.2 Weaknesses

- Major equipment and apparatus cycling/replacement programs need enhancing.
- Fire stations and locations need to be addressed.
    - Identified ingress and egress challenges (Station 1)
    - Identified structural/facility deficiencies and lack of maintenance issues (Station 1, Station 2, 3, and 4)
    - Duplication inefficiencies (stations 2 and 3)
- Water tankers and initial water supply challenges, requiring large volume tankers.

[17] Fire Underwriters Survey, "Who We Are", https://fireunderwriters.ca/

- Public education programming challenges due to present staffing resourcing.
- Fire Prevention Inspections program challenges due to present staffing resourcing.

2.4.3 Opportunities

- Building upon the Regional Training Centre (RTC) scope, operations, funding, and resourcing.
- Assisting neighbouring fire departments with training opportunities from recruit to in-service maintenance training.
- Joint procurement, apparatus servicing (by an Emergency Vehicle Technician) and dedicated dispatching opportunities with other municipalities.

2.4.4 Threats

- Lack of funding and/or communication of funding needs.
- Scope of work requirements/defined job descriptions for full-time (FTE) roles in non-suppression divisions.
- Apparatus specification, design, and procurement processes should be reviewed.
- Apparatus maintenance and work-order process flows requires more defined parameters
- Recruitment and retention of volunteer firefighters
- Due to changes in climate, inclement weather incidents, such as freezing rain/ ice storms are becoming more commonplace and need to be part of the emergency response program for each community. This change in climate conditions, along with the resulting frequency and severity of incidents, has also predicated the need for a larger response component to these emergencies.

***Note**: The province is introducing certification of firefighters and related job classifications. This will come into effect as of July 2022.*

In 2019, the OFMEM introduced a new regulation to the *FPPA*:

Ontario Regulation 378/18: Community Risk Assessments (O. Reg. 378/18) requires that every municipality and every fire department in a territory without municipal organization complete a community risk assessment and use it to inform decisions on the provision of fire protection services.

- Conducting a community risk assessment and the development of a community risk reduction plan, is to be completed/updated every five years.

The CRA document, as initially conducted and provided by EM&T, is a template that is modelled on the OFMEM requirements. Utilization of this template is well advised as it meets all the requirements

of OFMEM and ensures that reviewing and updating the CRA is straight forward based on the initial CRA provided.

All these noted SWOT challenges along with a current community risk assessment (CRA) need to be monitored, evaluated, and regularly reported to council(s) by the fire chief to ensure that HLBFD is meeting the needs and expectations of the community and that council(s) have the most relevant information on which to base policy and budget decisions.

***Note**: All communities are required to have a completed CRA no later than July 1, 2024. And it must be in the form that the Fire Marshal provides or approves. A CRA was conducted for both communities and was completed on the template provided by the Fire Marshal's Office.*

2.5 Focus Group Sessions

To get a complete understanding of how well HLBFD is meeting the needs of its staff and the community, and to assist Huntsville and Lake of Bays councils in making strategic decisions for the future of the community, interviews and surveys were conducted. Feedback was gathered from internal fire staff, which included firefighters, Administration, Training, and Fire Prevention. Additionally, the senior management teams of both Huntsville and Lake of Bays where interviewed. Finally, both Huntsville and Lake of Bays Councillors were interviewed individually or in small groups to ensure there was no quorum criteria triggered.

The sessions resulted in the identification of the following key themes:

- Continuing to meet the needs of the growing community with the present set up of the fire stations, locations, equipment, apparatus, and service level expectations
- Staffing roles, levels, and volunteer firefighter recruitment
- Communication between fire chief and the CAOs, councils, and firefighters
- Integration with corporation (i.e., HR and payroll)

2.6 Public Survey

Much of the information received from the public survey identified the following:

- Communities are proud of the service and that they are served by a professional and dedicated group of firefighters.
- The top themes for HLBFD that became apparent are the volunteer firefighter recruitment and retention; anticipated growth that is occurring; meeting service level requirement and expectations; and the assurance of properly trained (specialities) and equipped staff in meeting response challenges.

- The top services that the community feels are important:
    - Firefighting and emergency responses such as hazardous materials
    - Rescue (i.e., motor vehicle accidents)
- In the future, staffing requirements should be reviewed which may include an increased full-time, career component as the community grows. This was identified as the likely possibility due to volunteer recruitment and retention issues.

Note: *Specific comments were received in relation to the fire operations, training, and other general items. These comments have been included in other related sections of the FMP, which assist in forming the list of recommendations found within this document. Copies of the surveys have not been attached to this document but are available at the request of the* fire chief*.*

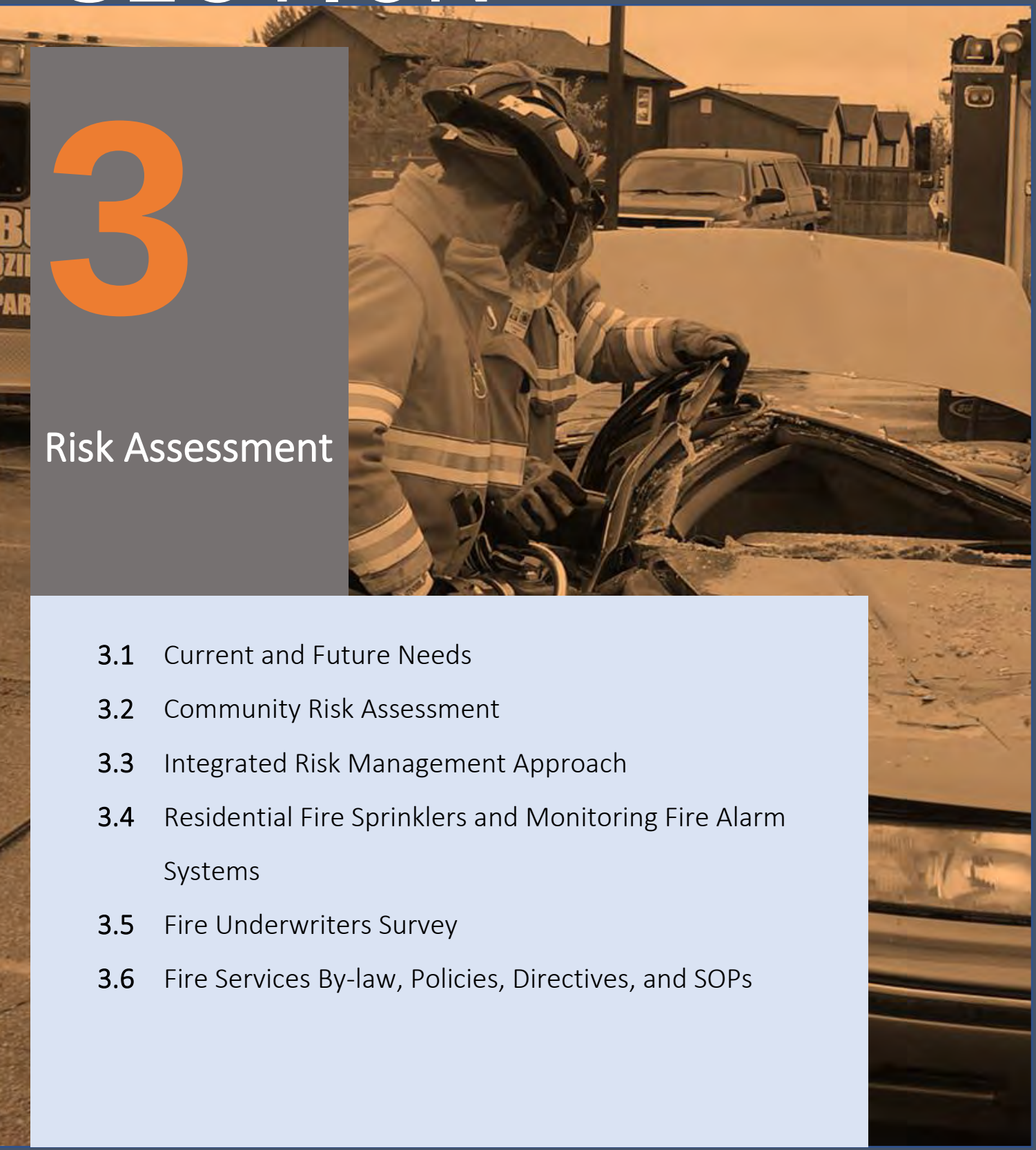
Overall, the focus group sessions and public survey were positive about the services being offered by HLBFD. The primary theme we heard repeatedly was to ensure that HLBFD continues to ensure it is meeting the community needs and can continue to provide a quality service that the E&R Bylaw and community expectations reflect.

Recommendation(s)

No recommendations for this section.

SECTION 3

Risk Assessment



3.1 Current and Future Needs

3.2 Community Risk Assessment

3.3 Integrated Risk Management Approach

3.4 Residential Fire Sprinklers and Monitoring Fire Alarm Systems

3.5 Fire Underwriters Survey

3.6 Fire Services By-law, Policies, Directives, and SOPs

3.1 Current and Future Needs

With a land area of approximately 1,387.92 km^2 (535.88 mi^2.), the community contains an abundance of developed areas including single family, multi-unit, low rises, and high rises. In the coming years many additional high rises will exist throughout Huntsville. There are environmentally sensitive areas, many lakes, and streams, with some parcels of rural lands. The area is primarily rocky and woodland throughout. Several significant residential developments are proceeding in both municipalities.

3.1.1 Municipal Responsibilities

It is council that sets the level of service within the community. The *FPPA*, 1997, S.O. 1997, c. 4, outlines the responsibilities of a municipality and providing a framework for protecting citizens from fire:

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.[18]

Further, the *FPPA* provides a description for the methods of providing services.

Methods of Providing Services

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

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

(b) establish a Fire Department.

The municipalities have established a Fire Department as outlined in Section 2.2(b) of *FPPA, 1997, S.O. 1997*, c. 4. The level of service that must thereby be provided is further outlined in Section 2.1(b) of the *FPPA*. The level of service to be provided is determined by the needs and circumstances of the community and can be derived from conducting an FMP for council. The 'needs' can be defined by the type of buildings, infrastructure, and demographics of the local area which in turn can be extrapolated into the types of services that would be offered and needed. The 'circumstances' are considered the communities ability to afford the level of service to be provided. Together the needs and

[18] https://www.ontario.ca/laws/statute/97f04

circumstances assist in identifying a level of service for the community. This combination meets the expectations of the public for safety and the affordability of this level provided.

The municipalities are currently experiencing consistent but controlled growth, which is leading to an infill of vacant lands and the redevelopment of others. While much of this growth is residential in design, it brings commercial and industrial prospects. This increase impacts the service delivery of the Department, affecting the need for service along with the population.

HLBFD is concerned that future challenges in meeting reasonable response times could occur as call volumes increase. This creates a possible risk to the community and as such the fire chief will need to monitor response times including how often a full response assignment (based on department expectations relating to the call type) was not amassed. For example, if the expectation of the Department is that four firefighters must be on the scene of a house fire before any entry can be accomplished, then how often, if any has this number not been met?

This type of information can be used to identify any future needs and/or considerations for the incorporation of any additional apparatus, staffing, and fire stations.

3.2 Community Risk Assessment

The most effective ways to reduce injuries, death, and property damage due to fire are through public education, inspections, and enforcement. The fire prevention program addresses these key components of fire safety which starts with conducting a CRA; a completed CRA for the two municipalities and the HLBFD has been prepared by EM&T as a supplementary (stand alone) document. However, the key findings and suggested treatment options have been incorporated into this section.

3.2.1 Community Risk Assessment Profile

Risk assessment is the process used to identify the level of fire protection required within the boundary of each municipality. It is a means of measuring the probability and consequence of an adverse effect to health, property, organization, environment, or community as a result of an event, activity, or operation.

Each municipality's council has the authority to establish the level of fire protection within their community. The fire chief is responsible for informing council of risks existing within their respective community. It is based on this information that council can make an informed decision on the level of service to be achieved.

The Province of Ontario *Regulation 378/18* CRA states, "a CRA is a process of identifying, analyzing, evaluating, and prioritizing risk to public safety to inform decisions about the provision of fire

protection." Effective July 1, 2019, the regulation states that every municipality shall complete a CRA by 2024 with renewal to occur every five years. The municipality is required to review the document annually.

There are two basic risk categories associated with the fire service – **operational risk** and **organizational risk**. Operational risk is the responsibility of HLBFD to determine the risks within its community and devise strategic, tactical, and task-orientated plans to mitigate incidents. Organizational risk is a function and responsibility of each council to determine the disciplines, level of service, staffing, stations, and approval of the Department's business plan based on the overall risk assessment of the municipality.

The accumulation and analyzation of these factors will assist in applying this information to identify potential risk scenarios that may be encountered. 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?
- Who could it happen to?
- Why could it happen?
- How likely could it happen?
- How bad would it be if it happened?
- What can be done to mitigate or prevent any or all the above?

Answers to these questions will frame the basis for formulating and prioritizing risk management decisions to reduce the likelihood of incidents from occurring and to mitigate the impact of incidents when they occur.

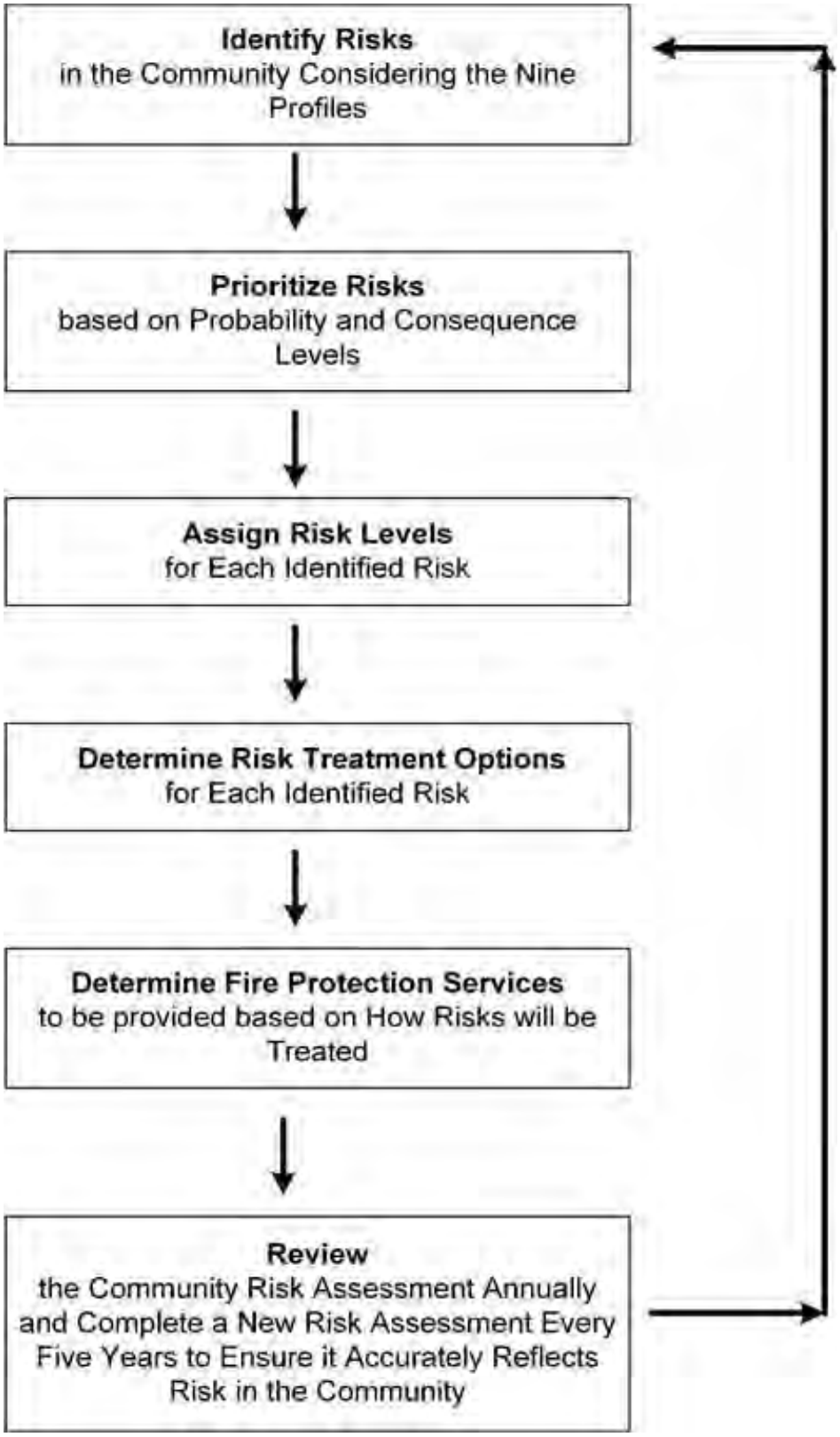
The CRA may identify gaps and areas where actual conditions vary from the desired outcomes. Data to be reviewed for each mandatory profile noted in the OFMEM template include:

- *Demographics Profile* – age, gender, educational attainment, socioeconomic makeup, vulnerable individuals or occupancies, transient population, 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* – waterways, highways, canyons, railroads, wildland-urban interface, bridges, and other specific features of the community.

- *Building Stock Profile* – potential high-risk occupancies (whether residential, commercial, or industrial), building density, building code classifications, age of the structure(s), occupancies that could be a high life safety risk, and aging / historic buildings.
- *Public Safety Response Profile* – resource distribution within the community including 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, cultural/ethnic groups, etc.
- *Hazard Profile* – human, technological, or natural hazards.
- *Economic Profile* – infrastructure, local employers, industries, institutions, community's tax base and local attractions.
- *Past Loss/Event Profile* – consideration to the impact and frequency of an event; identify large acute events which have a low frequency but a high impact, or small chronic events which have a high frequency with a low impact.

In the interpretation phase of the data collected for the nine profiles, only matters that are relevant to fire protection services are considered. The following flow chart as outlined in OFMEM Regulation 378/18, outlines the process whereby risks are to be identified from past events while also reviewing future growth trends within the municipality relating to demographics and building stock.

FIGURE #4: Community Risk Assessment Flow Chart



The probability or likelihood of a fire occurring within a community is estimated based on previous occurrences and the frequency of such events. It is this review of previous events including the fire loss data, learning from what may have occurred in other jurisdictions, and discussions with those who may have been in attendance of the event that will assist in laying a baseline for evaluation. The judgement of professionals with such experiences must not be missed during this process and may paint a more in-depth picture of what may have occurred in the past.

These evaluations are based on five levels of probability as outlined in the Ontario Fire Marshals Comprehensive Fire Safety Effective Model:

Rare – Level 1

- May occur in exceptional circumstances
- No incidents in the past 15 years

Unlikely – Level 2

- Could occur at some time, especially if circumstances change
- Five to 15 years since last incident

Possible – Level 3

- Might occur under current circumstances
- One incident in the past five years

Likely – Level 4

- Will probably occur at some time under current circumstances
- Multiple or recurring incidents in the past five years

Almost Certain – Level 5

- Expected to occur in most circumstances unless circumstances change
- Multiple or recurring incidents in the past year

When an event occurs, whether minor or major in intensity, what are the consequences of it? The use of professional judgement and reviews of past events are important means for establishing the quantification levels. To establish this level, four components are to be considered:

1. Life Safety – any injuries or loss of life to anyone involved, public and firefighters (includes actual or potential situations).
2. Property Loss – the dollar loss relating to public and private buildings, contents, irreplaceable assets, significant and symbolic landmarks, and critical infrastructure.

3. Economic Impact – monetary loses associated with income, business closures, downturn in tourism, tax assessment value and loss of employment.
4. Environmental Impact – harm to humans, vegetation, and animals; the decline in quality of life due to air, water, and soil contamination as a result of either the fire or fire suppression operations.

The consequences are categorized according to 5 severity levels.

- Level 1 – Insignificant – no or insignificant consequences to life safety, value of property loss, impact on the local economy or the general living conditions.
- Level 2 – Minor – potential life safety risk to occupants is low, minor property loss, disruption to business or general living conditions.
- Level 3 – Moderate – a threat to life safety of occupants, a moderate loss of property, the threat to the loss of business along with a potential threat to the environment.
- Level 4 – Major – large dollar loss with significant property loss, large threat to local commerce and tourism along with impacts to the environment that would result in short-term evacuation.
- Level 5 – Catastrophic – significant loss of life, multiple properties with significant damage, long-term disruption of business, employment, and tourism along with environmental damage resulting in long-term evacuations of residents and businesses.

The different levels of risk treatment are:

1. Avoid the Risk – Implementation of programs to prevent fires or emergencies from occurring.
2. Mitigate the Risk - Programs and initiatives implemented to reduce the probability and/or consequences of a fire or emergency.
3. Accept the Risk – After identifying and prioritizing a risk, it is determined that there are no specific programs or initiatives to be implemented to address this risk.
4. Transfer the Risk – The fire department has chosen to transfer the impact and/or management of the risk to another organization or body outside the agency.

The following table indicates some of the top risks or issues/concerns found within Huntsville and the Lake of Bays.

TABLE #2: Top Risks or Issues/Concerns for Huntsville

NOTE: The following features are not identified in the order of their level of risk.

Top Risk or Issues/Concerns	Risk/ Treatment Option(s)
Bodies of water	**Water level of streams, lakes, and rivers within the municipality tend to fluctuate year-round. Spring is prone to flooding.** **HLBFD provides offshore-based water/ice rescue responses only in the Township of Lake of Bays.** ▪ Note: Huntsville has recently acquired the equipment to perform ice rescues to the operations level for offshore rescues. Currently developing a training program for the use of this equipment. **HLBFD does not have the means to mitigate water rescues marine vessel fires in the Huntsville town centre. A vessel is in the process of being obtained, in conjunction with the building dept. HLBFD has marine vessels available (only in the Lake of Bays and Port Sydney areas) to use during summer months.** **It is unknown when an emergency may occur. As such, the fire department should have their own vessel available 24/7.** ***Proposed Treatment Options:*** • Review water rescue requirements under present legislation, regulations, and costs. • Promote water safety programs through swimming organizations and other first responders such as the Ontario Provincial Police (OPP), and Muskoka Paramedic Services (MPS). • Fire service to ensure development of response protocols and standard operating guidelines (SOGs) for the various water/ice rescue response type operations that may occur. • Promote seasonal safety measures for both in and on the water through signage along the shore and submissions to local media outlets.

Top Risk or Issues/Concerns	Risk/ Treatment Option(s)

	• Promote safety equipment that should accompany those that venture onto the ice such as whistles, flotation suits, air horns, throw ropes, etc.
	• Educate those that venture out on ice that has formed on the rivers that the thickness could be different along its route due to the currents under the ice.
	• If building department is using the vessel and they are at an island some distance away, there could be a significant delay in responding to the incident.
	  • The fire department may not know it is in use until they arrive at the marina to depart.
	  • There could be a delay in contacting those that are using the vessel, and further delay to obtain it.

Huntsville-Lake of Bays Fire Department *New developments will bring an increase in populous and building stock.*	**The Town of Huntsville will see considerable growth in its building stock and new residents in the coming years.** **There are significant residential developments in the Town of Huntsville.** **The Town is moving towards larger residential structures such as five-storey hotels/ apartment buildings.** **There are two, five-storey buildings approved to be constructed, but neither has begun construction.** **The growth will also see a combined total of approximately 380 to 400 housing units plus an additional 2,900 condominiums units over several years.** **The estimated population growth is approximately 2,000 to 3,000 over the next 10 years.** o Six-storey construction may be made using ordinary construction materials as per the OBC.

Top Risk or Issues/Concerns	Risk/ Treatment Option(s)
	Proposed Treatment Options: • May require additional staffing, possibly additional stations, and apparatus, to manage the service needs of the additional developments. • Will require constant training for firefighters on techniques of fighting fires in higher structures. • Town to continue promoting and, in some cases, mandate the installation of residential sprinklers for new developments in the planning stages. • The Town currently has a single 30 m (100') aerial device o If it were to be out of service due to mechanical issues, the Town would have to rely on another municipality responding with their aerial device. This could result in significant delay. o Huntsville should review enhancements of its number of aerial devices.
Technical Rescues – Trench/ Confined Space/ High & Low Angle/ Ice Water/ Vehicle Entrapment	**HLBFD does not perform technical rescues such as confined space, trench, or high angle. The E&R By-Law states that the HLBFD provides shore-based ice rescues. Equipment has been purchased and training evolutions developed to move to the operations level.** **Water rescues are performed by HLBFD as they have several marine vessels in service.** **The Department attends motor vehicle collisions (MVCs), performs auto extrications, and elevator rescues. Increased risk of someone falling through the ice as more individuals have been observed on the ice earlier in the winter season.** ***Proposed Treatment Options:*** • Complete technical rescue training for all firefighters to at least the Awareness Level. • Have procedures in place to call in resources to mitigate such incidents. Currently, there is no fire service agreement with any local departments and/or third party (private) organizations in place to address this risk. Barrie Fire Department and the

Top Risk or Issues/Concerns	Risk/ Treatment Option(s)
	OFMEM should be contacted to help research options for either training assistance for HLBFD to bring staff up to an acceptable level of response, and/or in identifying department closer to Huntsville/Lake of Bays for response to these types of incidents. • Ice rescue training must be compliant with OH&S Section 21 Guidance Notes and NFPA Standards.

Hazardous Materials Incidents	**HLBFD responds to hazmat incidents and performs tasks only to the awareness level of training.**
	
	• HLBFD may have a hazmat incident in any one of the industries in the town or along any roadway.
	  o Firefighters are trained to the operations level when completing their NFPA 1001 training requirements.
	• Training to at least the minimum of awareness level allows for containment and mitigation of less dangerous materials such as a small gasoline spill.
	  o HLBFD does have some material containment booms for use on waterways or lakes.
	
	Proposed Treatment Options:
	
	• Have policies, SOGs and procedures in place to handle an event to the level the firefighters are trained to and set out in the E&R By-Law.
	• Have an agreement in place with either an outside fire service or third-party enterprise to mitigate certain HAZMAT incidents. But for now:
	  o The Provincial Emergency Operations Centre may be notified of a HAZMAT incident in which HLBFD is not able to control or mitigate, who in turn will notify one of the Provincial HAZMAT Teams to respond.
	  o The closest Provincial HAZMAT Team is stationed in North Bay. Their arrival time could be as long as three to four hours after being notified. But this might be the best option available. More research by the fire chief is required.

Top Risk or Issues/Concerns	Risk/ Treatment Option(s)
	• Adjust the Fees By-Law to reflect full cost recovery for attending HAZMAT incidents.
Weather Event *Tornadoes*	**Tornado Events – early warning devices** **Historical tornadic events occur within this region of the province each year.** **Some municipalities are using apps developed and operated by a third party as means of notifying community of important messaging.** **Environment Canada issues warnings via several media platforms.** **Messages sent out via Alert Ready – Canada.** **The District of Muskoka (DOM) and the Muskoka Emergency Response Committee has launched the "#AlertMuskoka"[19] app that is powered by the Voyent Alert system.** ***Proposed Treatment Options:*** • Residents are encouraged to download this early warning app into their phones, tablets, and computers. This education could be incorporated into regular public education events, building permits, licensing, invoicing, etc. • Town should consider the installation of storm sirens like other municipalities have begun doing in Southern Ontario. o Storm siren installations should be reviewed by the Muskoka Emergency Response Committee (MERC) to be possibly placed in built-up areas such as Huntsville town centre, and Port Sydney.

[19] https://www.muskoka.on.ca/en/health-and-emergency-services/alertmuskoka.aspx

Top Risk or Issues/Concerns	Risk/ Treatment Option(s)
Structure Fires	**Proposed Treatment options to help reduce the number of structure fires within the community.** • Increased public education focusing on preventing the misuse of material that causes the ignition such as candles, smokers' articles, fireplaces, and woodstoves along with electrical/mechanical equipment. • Promote the dangers of unattended candles during festive seasons or ethnic traditions. • Where smoking related items are the cause of fire, continue public education programs to bring to the public's attention the dangers of careless smoking with the use of available statistics. • Provide information on the importance of having working smoke alarms and carbon monoxide detectors in the home. • Continue to encourage and practice home escape plans through discussions with children during school visits. • For new home builds or major renovations, promote residential sprinkler systems. • Before the wood burning season begins, promote the need to have chimneys cleaned and inspected. • Take advantage of speaking engagements that include senior citizens to discuss safe cooking procedures and what to do in the event of a cooking or grease fire. • Discuss dangers of wearing loose fitted clothing while cooking, especially with open flame stoves such as those that use propane or natural gas. • Work with local industry and commercial establishments on the advantages of maintaining electrical/mechanical equipment and continued good housekeeping practices. • During door-to-door residential visit program, pay extra attention on those furthest away from a fire station. o Residential fires are the biggest risk as identified in fire data and needs analysis. o Difficult to have a successful door-to-door outreach program without additional resources assigned to Fire Prevention/Public Education

Top Risk or Issues/Concerns	Risk/ Treatment Option(s)
	○ To initiate an "After the Fire" PE blitz in an area of the town that experienced a residential fire would require the resources to make it a successful program. • Develop plans on initiating and continuing regular fire inspections based on the frequency outlined in the Fire Underwriters Survey (FUS) and/or NFPA 1730 inspection schedule. • Enforce penalties for Fire Code violations. • Monitor both undetermined and miscellaneous fires to see if there is a trend. • Work with OPP and OFMEM to come to a fire cause conclusion and address as required. • Develop programs for high school children to complete community service hours by assisting the fire department at community functions/public education/fire prevention engagements. • Educate children on dangers of playing with smoker's articles and what to do if their clothing catches fire. • Continue to teach safe cooking practises to students in cooking classes. • Ensuring Fire Safety Plans are current for occupancies legislated to have them on site and readily available for firefighters to acquire. • Consider establishing the Arson Prevention Program for Children with stakeholder agencies. • Implement a program of developing Pre-Incident Plans in accordance with NFPA 1620 – *Standard for Pre-Incident Planning.*
Huntsville-Lake of Bays Fire Department *Fire investigation*	**In 2018 there was $1,654,000 in property loss and this amount is steadily increasing.** **In 2019, property loss was recorded as $2,040,300.** **In 2020, the property loss was recorded as $2,128,400.** **These property loss fires include both structure and vehicle fires.**

Top Risk or Issues/Concerns	Risk/ Treatment Option(s)
	Proposed Treatment Options: • Enhanced level of training provided to fire investigators may aid in reducing the number of "undetermined cause" fires**.** Monitor high dollar loss fires to see if trends are developing. • Consider training current officers not presently qualified on fire investigations in accordance with NFPA 1033, *Standard for Professional Qualifications for Fire Investigator* to this standard. o Include fire investigation in officer training curriculum for new officers. o Continue to monitor the circumstances behind structure fires to note a pattern or aligning circumstances. *Note: Undetermined fire cause is defined as – in the circumstances where all fire causes have been eliminated and the investigator is left with no hypothesis that is evidenced by facts of the investigation, the investigator must conclude that the fire cause, or specific casual factors, remains undetermined (per NFPA 921). Nevertheless, ongoing training for investigators should be in place.
Illegal Second Unit/ Apartments	**With existing and new residents living in the municipality, there will most likely be illegal second units and apartments that should be investigated.** **Second units are covered under the Ontario Building Code (OBC) and Ontario Fire Code (OFC) standards, through the *Strong Communities through Affordable Housing Act*, 2011.**[20] • **Units are enforced under OFC Div. B., 9.8.**[21] **Inspections are taking place for those second units that have been identified.** • **May lack basic fire safety measures.**

[20] https://www.ontario.ca/laws/statute/s11006
[21] https://www.ontario.ca/laws/regulation/070213

Top Risk or Issues/Concerns	Risk/ Treatment Option(s)
	• **May be operating in areas that are not zoned for that purpose.** **Property owners may be either unaware of or do not have knowledge of fire safety requirements and their responsibilities**. **Language barriers are possible –** Residents may not have a strong understanding of English. ***Proposed Treatment Options:*** • Some residences may not meet OFC requirements and should be addressed. • Town should establish a means for people to notify the authorities of locations that may be illegally operating. • Conduct a public education awareness program through media outlets publicizing the risks. • The Town's Zoning By-Law permits second units and identifies local requirements to meet specific needs in the municipality. • Would require the establishment of a taskforce to address this issue, that includes the building department, planning and the HLBFD. • Additional resources would be required for fire prevention to conduct the required inspections
Huntsville-Lake of Bays Fire Department *Fire Underwriters Survey*	**There has not been a FUS completed in many years. Although it is not a legislated requirement, the updating of this review can help to identify areas for improvement by the fire department (based on FUS criteria). This offers the HLBFD one other option relating to areas for improvement.** ***Proposed Treatment Options:*** • HLBFD should consider arranging for FUS to complete a survey in the very near future. • Completed surveys can affect the insurance rates set forth for those living in the Town. • Frequency for fire inspections noted by FUS and/or NFPA 1730 fire inspection frequency chart should be used as a benchmark only (in setting realistic goals for the HLBFD inspection program).

Top Risk or Issues/Concerns	Risk/ Treatment Option(s)
	• The HLBFD should engage in the opportunity of acquiring Accredited Superior Tanker Shuttle Service. o Having its tanker shuttle accreditation will assist in lowering insurance rates for those in areas that no hydrants are present.
Huntsville-Lake of Bays Fire Department	**Continue monitoring response times with NFPA 1720 as a benchmark/guide.** This includes the following - Achieve a goal of 10 firefighters on the scene within 10 minutes 80% of the time within suburban areas, which have between 500 and 1,000 people/ mi² (2.6 km²) such as the Huntsville Town Centre. • Continue to achieve a goal of having four firefighters arriving on the scene of an incident . As for monitor HLBFD turnout and response times. • By utilizing the most recent three-years of data, utilize that as a baseline and then set realistic goals for response time improvements, where possible. The key is continuous improvement.

3.2.2 Future Needs

Understanding the community and its needs allows the fire chief and staff to be proactive with education and enforcement programs to the community. When fires occur within the community, the firefighters can be ready to battle the fires because they are trained not only in the basics of firefighting, but in understanding any unique and/or special hazards that are found within the community. These hazards must be identified in a risk assessment so the fire chief can ensure preventative and mitigative programs are in place. As the community grows in population and building stock, the frequency of and the need for service will grow.

Based on the continued growth within each municipality, there will be a continuing need for additional staff time spent in fire prevention and public education activities.

3.2.3 Provincial Community Risk Statistics

While no recent simplified risk assessment was available, the fire chief and his staff can work with municipal staff to obtain an updated list of building stock within the community, along with identifying other hazards such as railway crossings, major highways, and the addition of any high-rise structures.

The first set of statistics noted is of the most recent provincial data found on the OFMEM's website, which can be compared with the most recent HLBFD statistics for each community. Unfortunately, 2020 is not available but the following provides a good indication of fire statistics in the province.

Provincial - Loss fires by Property class

From 2010 to 2019, there were 110,811 fires with loss reported to the OFMEM.

- 47% of these fires occurred in Residential occupancies.
- 27% occurred in vehicles.
- 13% occurred on structures/properties not classified by the Ontario Building code – this includes many non structure property types – land, outdoor storage, and some structures ranging from barns to weather stations.
- 5% of loss fires occurred in Industrial occupancies.
- 3% in Assembly occupancies.
- 2% in Mercantile occupancies
- 2% in Business and Personal Services occupancies.
- 1% in Care and Detention occupancies.

The distribution of fire occurrence across property type has been relatively unchanged over the years.

Provincial - Loss Fires Property class: Structures only

From 2010 to 2019, there were 72,104 structure fires with loss reported to the OFMEM.

- Fires in residential occupancies – 73%
- Properties not classified by the Ontario Building code – 8%
- Industrial occupancies – 8%
- Assembly occupancies – 4%

- Mercantile – 3%
- Business and Personal Services – 3%
- Care and Detention Occupancies – 1%

This distribution of fire incidents across structure property types has been consistent over many years.

Provincial - Structure Loss Fires: Ignition source

Nine percent of the structure loss fires were suspected to be arson or vandalism (intentionally set).

Between 2010 and 2019 the ignition sources in other (not intentionally set) structure loss fires were:

- 17% cooking
- 9% electrical distribution equipment (wiring)
- 8% heating/cooling
- 8% miscellaneous (includes natural causes and chemical reactions)
- 7% cigarettes
- 5% appliances
- 4% other electrical/mechanical
- 4% exposure fires
- 3% open flame tools/smoker's articles (excluding matches and lighters)
- 2% lighting – excludes candles
- 2% candles
- 1% matches or lighters (excluding arson fire)
- 1% processing equipment
- 20% reported as undetermined.

Note: *These statistics total 91% of the fires. The ignition source for the other 9% is not identified within these statistics.*

The number of fire fatalities in Ontario increased by 65% between January 1, 2019, and May 4, 2019, and at the same period in 2020. In 2019, there were 31 fire fatalities and in 2020 there were 51. This,

in part, is being attributed to people staying home due to the COVID-19 pandemic, in which many worked from their residence or remained at home as directed by Government Agencies.

3.2.4 Huntsville and Lake of Bays Community Risk Statistics

The following information was obtained from the OFMEM, as well as documents received and taken from the past reports supplied to EM&T. The data offers an overview of the areas of concern within the municipalities. For ease of review, the data has been listed from the highest to lowest level of concern. This information will assist the fire chief and staff with fire prevention and public safety awareness initiatives.

Fire Loss by Occupancy Classification

The analysis indicates that between 2016 to 2019 approximately 75% of the fires reporting a loss occurred in Group C - residential occupancies.

TABLE # 3: Huntsville and Lake of Bays Fire Loss by Property Classification 2015-2020

Property Classification	Town of Huntsville Total Fires and Percentage of All Structure Fires	Township of the Lake of Bays Total Fires and Percentage of All Structure Fires
Group A – Assembly occupancies	2 fires – 8%	1 fire – 5%
Group B – Institutional care or detention occupancies	0 fires – 0%	0 fires – 0%
Group C – Residential occupancies	45 fires – 70%	15 fires – 91%
Group D - Business and personal services occupancies	2 fires – 4%	0 fires – 0%
Group E - Mercantile occupancies	0 fires – 0%	0 fires – 0%
Group F – Industrial occupancies	3 fires – 5%	0 fires – 0%
Other occupancies not classified within the OBC	6 fires – 12%	0 fires – 0%
Classified under National Farm Building Code	0 fires – 0%	1 fire – 4%

***Note** – Statistical data made available from reports submitted to the OFMEM.*

Reported Fire Cause

Assessing the possible cause of the fires reported is an important factor in identifying any potential trends or areas that may be considered for introducing additional public education or fire prevention initiatives as part of the community fire protection plan.

The leading causes of fire were:

- Misuse of ignition source/material first ignited
- Mechanical/ electrical failure
- Undetermined
- Design/ construction/ maintenance deficiency
- Arson
- Other unintentional
- Other
- Vandalism
- Children playing

Ignition Source Class

The leading causes for ignition sources were:

- Undetermined
- Miscellaneous
- Open flame tools, smoker's articles
- Electrical distribution equipment
- Heating equipment, chimney, etc.
- Appliances
- Cooking equipment
- Other, electrical/ mechanical
- Lighting equipment

To assist the Department in its fire safety goals, it is recommended that the Department staff meet with relevant local community groups to form a partnership for organizing fire safety and public education events that can be tailored to the unique needs and challenges within the community. These events can be based on the previous fire cause information supplied. An example of community groups would be a local group that wishes to promote fire safety in the community or any local Lions Clubs (or other clubs) that want to support fire safety initiatives.

In 2016 the "Targeted Residential Fire Risk Reduction"[22] report was released. This report was prepared by Len Garis, Sarah Hughan, and Amanda McCormick through the University of the Fraser Valley School of Criminology and Criminal Justice and the Centre for Social Research. The focus of the report was based on previous studies in England, Scotland, Sweden, and Norway. Those reports found that targeted home visits for public education efforts produced "promising results". By shifting public education efforts by way of door-to-door campaigns away from an entire community and towards identified at-risk households, not only are the campaigns more efficient but the effectiveness has measurable outcomes. The study team reviewed the 2011 Statistics Canada Census and National Household Survey, and the numbers presented were an estimate of households and at-risk populations intended to provide an approximation. The identified five areas for "at risk" criteria:

1. Age >65
2. Age <6
3. Lone Parent
4. Unemployed
5. Mobility (movers)

The team evaluated and determined "the top 10th percentile of areas within municipalities that would be most at risk for fires to occur in their home". From this they created dissemination areas (areas which represent populations of between 400-700 persons) and focused on single-family detached dwellings. The project did not focus on residents of condominiums, apartments, or townhouses. Surrey Fire Rescue Service used this data to create a "HomeSafe" program that focused on installing smoke alarms in these identified homes.

The data shows that in the three measurable categories (At Risk Areas, Private Single Detached Dwellings, and At-Risk Population), Huntsville is above the provincial and federal levels. Federally and provincially the number of At-Risk Dissemination Areas per Total Dissemination Areas ratio is roughly 1 in 8. Huntsville has a ratio of 1 in 6. Within the percentages of At-Risk Private Single Detached Dwellings and At-Risk Population, provincial and federal levels sit just 2 points below Huntsville. Table #4 details the data as sorted within the report.

[22]Len Garis, et al., Research Gate, "Targeted Residential Fire Risk Reduction a Summary of At Risk Areas in Canada", June 2016, https://www.researchgate.net/publication/307599464_Targeted_Residential_Fire_Risk_Reduction_A_Summary_of_At_Risk_Areas_in_Canada

TABLE #4: Huntsville At-Risk Comparison

Garis et al Report Criteria	Huntsville	Ontario	Canada
Number of At-Risk Dissemination Areas	5	2,630	7,198
Total Dissemination Areas	32	19,964	56,154
Percent of At-Risk Dissemination Areas	**15.63%**	**13.17%**	**12.82%**
Number of Private Single Detached Dwellings in At-Risk Dissemination Areas	1,245	501,990	1,320,785
Total of Private Single Detached Dwellings	6,175	2,712,000	7,301,825
Percent of At-Risk Private Single Detached Dwellings	**20.16%**	**18.51%**	**18.09%**
Population of At-Risk Dissemination Areas	2,967	1,420,807	3,585,822
Total Population	15,402	7,488,061	19,325,962
Percent of At-Risk Population	**19.26%**	**18.97%**	**18.55%**

Note: *Unfortunately, there was no data available regarding the Lakes of Bays community within the study.*

The data used in the Garis et al report is nearing ten years old, but a focus on local planning data would provide a clearer picture of the current state of Huntsville as it pertains to its at-risk populations. By including identification of at-risk groups, the department could better utilize available personnel resources and improve efficiency of programs. They would likely find ways to cross reference the data and metrics obtained in other areas of fire safety (i.e., tracking fire calls with areas targeted public education).

Based on this data, it would benefit Huntsville to focus its limited resources on targeting its public education campaigns. The fire prevention officer (FPO)/ Public Fire Life Safety Educator (PFLSE) would be able to concentrate public education programs where they are needed most, thus enabling them to better prioritize program scheduling.

3.3 Residential Fire Sprinklers and Monitoring Fire Alarm Systems

The NFPA, along with the OAFC, are strong supporters of residential sprinkler systems to reduce the risk to life and property from fire. In a recent NFPA on-line article it was noted that because fire sprinklers react so quickly, they can dramatically reduce the heat, flames, and smoke produced in a fire. Properly installed and maintained fire sprinklers help save lives, reduce damage, and make it safer for firefighters.

Fire sprinklers have been around for more than a century protecting commercial and industrial properties and public buildings. What many people do not realize is that the same life-saving technology is also available for homes, where roughly 85% of all civilian fire deaths occur.[23]

Facts about home fire sprinklers

Unfortunately, due to the lack of Canadian statistics, we must rely on American statistics. Since there are so many similarities in building construction, however, the statistics are an accurate reflection of the Canadian experience.

Automatic sprinklers are highly effective and reliable elements of total system designs for fire protection in buildings. According to an American Housing Survey, 8% of occupied homes (including multi-unit) had sprinklers in 2010-2014 up from 4.6% in 2009.

Source: *U.S. Experience with Sprinklers*[24]

- 85% of all U.S. fire deaths occur in the home.
- The civilian death rate of 1.4 per 1,000 reported fires was 81% lower in homes with sprinklers.
- The civilian injury rate of 25 per 1,000 reported fires was 31% lower in homes with sprinklers. Many of the injuries occurred in fires that were too small to activate the sprinkler or in the first moments of a fire before the sprinkler operated.
- The average fire fighter injury rate of 13 per 1,000 reported home fires was 789% lower where sprinklers were present.
- Where sprinklers were present flame damage was confined to the room of origin in 97% of the fires compared to 74% of fires without sprinklers.

[23] Marty Ahrens and Radhika Maheshwari, NFPA Research, "Home Structure Fires", last updated October 2021, https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Building-and-life-safety/oshomes.pdf
[24] Marty Ahrens, NFPA Research, "US Experience with Sprinklers", last updated October 2021, https://www.nfpa.org/News-and-Research/Data-research-and-tools/Suppression/US-Experience-with-Sprinklers

In 2021, the following fire safety statistics[25] were released:

- 40% of fire deaths happen in homes with no smoke alarm
- 17% of home fire deaths occur due to a non-functional smoke alarm.
- 25% of smoke alarm failures with a deadly outcome occur due a dead battery
- $235 million per year in property damage is caused by children starting fires
- Smoke alarms decrease the risk of dying in a home fire by 50%
- Electric space heaters are the cause of 80% of house fires with a deadly outcome
- Fire sprinklers can reduce the chance of death in homes by 80%
- According to the National Fire Protection Association, firefighters in the US respond to a fire every 24 seconds
- Fire sprinklers use less water than fire hoses
- Sprinklers activate on an individual basis
- The risk of property loss is reduced by 70% in homes with sprinklers

The Home Fire Sprinkler Coalition (HFSC) is a leading resource for accurate non-commercial information and materials about home fire sprinklers for consumers, the fire service, builders, and other professionals. By working with the developers and the public in promoting the installation of home sprinkler systems, the HLBFD would be demonstrating a pro-active approach to educating the public on another viable option for homeowners to help reduce the risk from fire. As such, it is recommended that HLBFD investigate this safety initiative as part of their fire prevention and public education initiatives.

Presenting a demonstration at community events by the HLBFD would assist in driving the safety factor of having sprinklers in the home. There are demonstration trailers available for sprinkler presentations for the HLBFD to acquire. A practical demonstration identifying the advantages of sprinklers will provide a very graphic visual image of their effectiveness.

Another key component to saving lives and property is early fire detection and monitoring. If the residents are not at home when a fire occurs, it may be some time before it is noticed and reported to the fire department. By that time, there could be significant fire involvement resulting in high

[25] Safe at Last, "The Latest Fire Safety Statistics – Stay Safe in 2021", January 20, 2021, https://safeatlast.co/blog/fire-safety/

property loss. The continuous monitoring of a fire alarm system by a third party will ensure constant surveillance of alarm systems and the prompt notification of an alarm to the fire department.

Having a residential fire sprinkler system and fire monitoring system in place will enhance the level of protection within a home.

3.4 Fire Underwriters Survey

The FUS is a national organization that provides data on public fire protection for fire insurance statistical work and underwriting purposes of subscribing insurance companies. Subscribers of FUS represent approximately 85% of the private sector property and casualty insurers in Canada.[26]

The results of these surveys are used to establish a Public Fire Protection Classification (PFPC) for each community. The PFPC is also used by underwriters to determine the amount of risk they are willing to assume in each community or section of a community. The overall intent of the PFPC system is to provide a standardized measure of the ability of the protective facilities of a community to prevent and control the major fires that may be expected to occur. This is done by evaluating, in detail, the adequacy, reliability, strength, and efficiency of the protective facilities and comparing the level of protection against the level of fire risk in the built environment.

The FUS also uses PFPC information to develop the Dwelling Protection Grade (DPG), which is used by personal lines insurers in determining property insurance rates for detached dwellings, with not more than two dwelling units. The DPG is a measure of the ability of the protective facilities of a community to prevent and control the structure fires in detached dwellings by evaluating the adequacy, reliability, strength, and efficiency of the protective facilities and comparing the level of protection against the level of fire risk associated with a typical dwelling.

The fire insurance grading system used does not consider past fire loss records, but rather fire potential based on the physical structure and makeup of the built environment. When a community improves its PFPC or DPG, insurance rates may be reduced, and underwriting capacities may increase. Every insurance company has its own formula for calculating their underwriting capacities and insurance rates; however, the PFPC and DPG classifications are extremely useful to insurers in determining the level of insurable risk present within a community.

[26] Fire Underwriters Survey, “Who We Are”, https://fireunderwriters.ca/

3.4.1 Current Fire Underwriters Survey

The HLBFD does not have a recent assessment by the FUS. Best practice and changing industry standards suggest that moving to a grade update every five years would better reflect ongoing changes to fire protection and communities at large. The FUS has also introduced their Municipal Fire Portal that would provide HLBFD the ability to access and update data relevant to both municipalities and forward updates in a timely fashion. By accessing this system regularly, the HLBFD can provide frequent updates from which FUS Specialists will analyze and publish grade updates as deemed necessary. It is recommended that the fire chief, deputy fire chief and the FPO/ PFLSE access and provide input to the FUS Municipal Fire Portal to ensure that the positive steps the Department has been taken to improve fire protect and fire safety education are documented.

3.5 Fire Services Policies, Directives, & Standard Operating Guidelines

Fire department policies and guidelines have enormous value for a department. In fact, they can be seen as the key foundation to a department's success. The backbone of any fire service is its standard operating policies (SOPs) and SOGs, which govern and provide direction on its operations.

- **A policy** is a high-level statement that expects consistent compliance. There is very little to no leeway permitted with a policy.
- **A guideline** is a standard with an acceptable level of quality or attainment on how to act in each situation with non-mandatory controls.
- **A procedure** is a standard with an acceptable level of quality or attainment in a series of detailed steps to accomplish an end. There are step-by-step instructions for implementation.

HLBFD's SOGs are numerous, encompassing, and thorough. To ensure all the SOGs are current, the Deputy fire chief should review and revise existing policies and SOGs regularly and develop new ones as required. Some fire departments review a third of the SOGs annually so that the entire document is reviewed every three years.

The review of the SOGs is a very involved process and the deputy fire chief should not take this task on independently. The establishment of an SOG Committee that establishes its own Terms of Reference would be a great asset to the Department in many ways; the SOGs would be updated and current, staff are more involved in the Department's operations; and provides a safer environment for members of the Department to work in.

It is suggested that the HLBFD make their SOGs available on-line through a fire department portal, so the firefighters have access to review them at any time.

A good source of information in the development of department SOGs is the Section 21 Guidance notes that are kept current by a provincial team of fire service personnel. The Section 21 Committee is part of the *Ontario Health and Safety Act (OHSA)* initiative for firefighter safety.

The health and safety of the firefighters is paramount and therefore it is important to maintain an active joint Health & Safety Committee. It was noted that the committee has been meeting frequently as required under the *OHSA*. The *OHSA* specifies that some members of the committee are to be certified at the two levels of health and safety certification, minutes of meetings are to be posted, workplace inspections are to be completed and SDS binders are to be made available and updated. To their credit, the HLBFD is compliant in all these requirements.

Recommendation(s)

Rec #	Responsibility	Recommendation	Suggested Timeline
5	HLBFD	Continue to work in conjunction with developers in promoting the advantages of installing residential fire sprinklers.	Short-term (1 – 3 years)
6	HLBFD	Should contact FUS to complete a community survey. • And that the Fire Management Team regularly access the FUS Municipal Fire Portal to communicate improvements and/or updates. This data could relate to new fire apparatus replacements, new fire stations, new construction, hydrants in new sectors, etc.	Shot-term (1 – 3 years)
7	HLBFD	An SOG Committee be established with representation of all Divisions of the Department. It is further recommended that the Department's SOGs be reviewed regularly.	Immediate (0 – 1 years) and ongoing

SECTION 4

Fire Department Divisions – Non-Suppression

4.1 Administration

4.2 Fire Prevention & Public Education

4.3 Training & Education

4.4 Training Facility

SECTION 4: FIRE DEPARTMENT DIVISIONS – NON-SUPPRESSION

Within the scope of work noted in the original Request for Proposal document, staffing needs were identified as a priority in which EM&T was to review the capabilities of existing staffing and identify future needs for each branch, including Suppression, Training, Prevention, and Administration.

When considering the overall staffing needs for HLBFD, some of the key questions that should be considered are:

- Is there a proper level of senior staff to manage HLBFD, its divisions, and fire stations?
- Is there adequate administrative or management staff to effectively deal with such things as records management and addressing day-to-day operations of HLBFD?
- Is there a need for other support staff in relation to vehicle and facility maintenance?
- Is there a time when HLBFD should consider migrating from a volunteer service to a composite or full-time service?

4.1 Administration

The Administration Division is comprised of a full-time fire chief and a full-time deputy fire chief. There is an administrative assistant, one training officer, one FPO, and one mechanical officer.

The fire chief and deputy fire chief have been managing the basic administrative and operational needs of the department. The fire chief, however, is challenged to advocate for both departments when reporting to separate councils.

A fire chief's role, in a large or small fire department, requires regular interaction and education of council(s), including senior corporate management. The focus needs to be strategic, with visionary planning and corporate collaboration versus the tactical and task focus only on daily fire department operations. Responsibility for Fire Protection Services found in Part 2, section 2, paragraph 6 (3), of the *Fire Protection and Prevention Act,* 1997, S.O. 1997, states that "A fire chief is the person who is ultimately responsible to the council of a municipality that appointed him or her for the delivery of fire protection services". It is based on this provincial legislation that the fire chief needs to communicate directly and regularly with the council of a municipality to satisfy the requirements of the role.

As such, EM&T is recommending the utilization of an additional administration position of assistant deputy fire chief or a secondment opportunity from the current staff complement to act in a role that supports the fire chief and deputy fire chief. This position and function would also provide an organizational development program to have internal staff with the knowledge, skills, and abilities to assume a deputy or fire chief role in future, thereby providing succession planning and structure to

HLBFD. The position should be evaluated annually to determine if it is adequately meeting the needs of the fire department.

Along with the addition of staff within administration, there is also the opportunity of creating a Joint Fire Service Board in which both communities have representation. This type of board could create a more streamlined reporting and decision-making structure for the ongoing operations of a joint fire service. More discussion on this topic can be found within Section 8 on Agreements.

4.2 Fire Prevention & Public Education

Fire prevention and public safety are the foundation to creating a safe community. In fact, the Ontario Fire Marshals Office has long stated that Education and Prevention are the first two priorities in the "Three Lines of Defence" [27], with Suppression being the third and last line of defence. Given the importance placed on the proactive activities of Education and Prevention, this should be the focus of a fire service to create effective, and manageable programs in these two areas. As such, EM&T has conducted a review of existing fire prevention and education programs to identify their strengths, gaps, and areas for growth and improvement.

Based on the Fire Department's E&R By-law, the responsibilities of the Fire Prevention Division are:

a. *"The Fire Department shall provide fire safety inspections arising from complaint or request, or if determined that such an inspection is necessary according to risk.*
b. *The Fire Department shall initiate FPPA, Fire Code or by-law enforcement activities where appropriate.*
c. *Distribution of fire and life safety information and public education programs shall be administered in accordance with the FPPA and polices and guidelines of the Fire Department.*
d. *Fire and life safety messaging shall be distributed to the public and media on a regular basis."*

The NFPA 1035 standard section 3.3.11 identifies fire and life safety education as a "comprehensive community fire and injury prevention program designed to eliminate or mitigate situations that endangers lives, health, property, or the environment." HLBFD should consider the implementation of more comprehensive programing within the fire department that focuses on more fire inspections, prevention, and preplan programs. More utilization of the firefighters could assist greatly in closing this gap, such as attending and supervising care occupancy annual fire drills. Additionally, in-service

[27] Mcscs.jus.gov.on.ca/English/FireMarshall/FireServiceResources/Communiques/OFM_Com_2014-19.html

suppression crews should be utilized to complete minor inspections and proactive public education programming with educational and community-based organizations. Those providing these primary activities should be qualified as Fire Inspector 1 and Fire and Life Safety Educator Level 1.

4.2.1 Determination of Current Staffing Requirements

To assist with understanding and assessing staffing requirements to meet a department's fire prevention goals, the NFPA has provided in their 1730 standard a process (within Annex "C" of the standard) of how to assess staffing requirements. The fire chief and fire prevention officer should consider utilizing this analysis to identify the goals of the department, how they can be met with the present staffing resources, along with what increase in staffing would be required if an increase in (fire prevention) programs is recommended.

> *Note: Annex C is not a part of the requirements of this* National Fire Protection Association *document but is included for informational purposes only.*

The five-step process involves a review of the following items:

1. Identifying the scope of desired services, duties, and desired outputs.
2. Review of the Fire Prevention Division's overall time demands in its efforts to offer services.
3. Review of hours presently documented, coupled with the hours required to meet annual goals of the division.
4. Actual availability of division personnel, factoring in vacation and other absences.
5. Estimating total number of personnel required based on the previous four steps.

Based on a review by EM&T, the present staffing levels do allow the HLBFD to conduct the basic legislated requirements of dealing with inspections relating to 'complaints and requests.'

To assist in this process, the fire chief with the assistance of the fire prevention officer should ensure detailed tracking of the actual time spent on each of the fire prevention related activities (ranging from site plan reviews, routine inspections, licensing, complaints, and requests, to name a few) over the next year. Further, reporting should include clearly identifying the number of public education events as well as the number of adults and children reached by the programs. By identifying the time spent on each project and collating this into baseline (approximate) times, the fire chief can then use those hours spent as a based amount in applying future initiatives.

The present utilization of existing resources is a cost-effective option for the promotion of fire prevention and public education programs. To accomplish this, some fire departments have trained some of their firefighters to be certified to conduct fire prevention/public education related inspections and programs. This not only brings more resources to the table but enhances the level of

fire safety awareness by those trained staff. Furthermore, this provides staff development and succession planning programming built into the organization.

HLBFD should consider building on its strength of certification of staff to NFPA standards (NFPA 1031 Fire Inspector and 1035 Educator) and include all suppression staff in prevention and education programming as a mandatory requirement of suppression staff.

Considering the duties and other related information noted in this section, it appears that the HLBFD does not have the ability to meet the FUS Frequency Chart on inspections noted in Table #5. This reference is supplied for information purposes only. It is meant to help guide and inform the Department. This FUS is an aggressive endeavour and should not define a fire department's commitment to promoting fire safety with Huntsville and Lake of Bays. As such, it is suggested that the HLBFD, through the utilization of this FUS chart as a benchmark to help develop a plan on what can be accomplished with its present staffing complement, along with presenting options for increasing inspection frequencies (through utilization of its volunteer firefighters and/or an additional full-time fire prevention staff) and ultimately what is needed to meet the FUS benchmarks.

TABLE #5: Fire Underwriters Survey Suggested Frequency Chart

Occupancy Type	Benchmark
Assembly (A)	3 to 6 months
Institutional (B)	12 months
Single Family Dwellings (C)	12 months
Multi-Family Dwellings (C)	6 months
Hotel/Motel (C)	6 months
Mobile Homes & Trailers (C)	6 months
Seasonal/Rec. Dwellings (C)	6 months
Commercial (F)	12 months
Industrial (F)	3 to 6 months

With all the aforementioned information noted, EM&T acknowledges that the FPO is doing an admirable job at ensuring that HLBFD is addressing any mandated requirements such as complaint and inspection requests, along with inspecting the vulnerable occupancies in the community.

4.3 Training & Education

Firefighters must be trained and equipped to apply a diverse and demanding set of skills to meet the future demands of the community they serve. As noted in the *Occupational Health and Safety Act;* clause 25(2)(a) notes that an employer is to provide information and instruction to protect the health or safety of a worker.

To support and address the OH&S requirement. The HLBFD E&R By-law states in section 20 under Training and Staff Development Division that "*The Fire Department shall provide such training and staff development activities such as are necessary for the efficient operation of all Divisions. The Ontario Firefighters Curriculum, International Fire Service Training Association "Essentials of Fire Fighting: National Fire Protective Association Professional Qualifications (NFPA) Standards and other related industry training standards and reference materials may be used as reference guides for Huntsville Fire Department training as approved by the* fire chief. *Members may be required to attend the Ontario Fire College, or any other recognized training venue as designated by the* fire chief *in order to acquire or maintain the necessary knowledge, skills and abilities to perform their job function."*

HLBFD needs to ensure that the requisite training and certification is in place for every service provided as per the E&R By-law for the fire service. Whether assigned to Administration, Fire Prevention, or Fire Suppression, staff must have the knowledge and skills necessary to provide reliable fire and life safety services.

Training is the responsibility of the full-time training officer who is charged with identifying the training needs of the suppression staff based on industry recommendations. As such, it is necessary that all identified training programs are in place and being addressed and evaluated on a regular basis. As noted in the Section 21 Guidance Note, 7-3 on Training Plans:

"Employers should also create and maintain training records such that:

- *documentation is complete and accurate, including names of participants*
- *they are completed promptly after training is conducted*
- *the learning outcomes of the training program are documented*
- *the training date(s) are recorded*
- *electronic files are reliably backed up."*

During EM&T's review of the Training and Education programs, it was found that HLBFD staff are endeavouring to ensure that all required training programs are being addressed to the best of the Department's ability. The Department also utilizes the services of in-house staff (volunteers) wherever possible in an attempt to ensure both consistency in training programs and related qualifications. However, with only two (2-hour) training sessions per month (for a total of four hours per month), which equates to an annual total of 48 hours, there is a concern that all required training is being accomplished to the degree that it should be.

During focus group sessions with staff, it also became clear that appropriate time should be allotted to this position to allow for more dedicated focus in relation to such things as:

- Ensuring that all training programs are meeting industry standards
- That all training is conducted in a consistent manner at all fire stations

- That all training records are properly maintained and kept up to date
- That a proper annual training program is in place, coupled with an annual assessment relating to the efficiency of the training programs
- Use and function of the RTC regarding in-house and external training operations, planning, and budgeting.

NFPA 1201 – Providing Fire and Emergency Services to the Public notes, in relation to training and professional development, that:

- 4.11.1 *The Fire Department Organization shall have training and education programs and policies to ensure that personnel are trained, and that competency is maintained in order to effectively, efficiently, and safely execute all responsibilities.*

Administration and training staff are aware of the training program needs and facility requirements and are tracking the related needs and available resource's ability to do training in-house. To verify in a more formal manner, however, that each training program is meeting the related NFPA program recommendations, the fire chief and training officer should:

- Identify what training programs are required for the services that HLBFD is providing.
  - Each area needs to be evaluated regarding the present (and future) services to be provided by the Fire Service, such as suppression, water/ice rescue, EMS, hazardous materials response, etc.
- Identify the number of hours that are required to meet each of those training needs based on provincial and/or industry standards.
  - What are the recommended training hours required and what refresher programs need to be conducted, and when?
- Identify the resources required to accomplish this training.
  - Does the training program require a full training tower for live fire and rescue scenarios, or can this be accomplished in other ways?
  - Can volunteer firefighter/officers, trained and qualified, be utilized to deliver training programs?
- Continue to strengthen joint partnerships with bordering fire departments and private organizations to achieve the training requirements identified.
  - What joint training can be accomplished to promote cost efficiencies?

HLBFD should be commended for having put together the present NFPA-based, training and certification plan. Linking and supporting the training subjects with provincial and industry standards

(that highlight what standard the training is meeting) will give greater credibility to each training initiative.

The training program should continue include a training plan for all firefighters such as:

- NFPA 1001 – Firefighter levels one and two within the first year
- NFPA 1002 – Driver operator qualifications within the second or third year
- NFPA 1006 – Technical rescue at the awareness levels
- NFPA 1021 – Fire Officer level one and two training for all suppression officers
- NFPA 1072 – Hazardous Materials response at the awareness level
- NFPA 1041 – Fire Instructor level one and two for those teaching courses within the department
- NFPA 1521 – Standard for Fire Department Safety Officer Professional Qualifications

Another area related to training that needs to be considered by the fire chief is the implementation of a succession program to ensure that senior positions can be filled by qualified people as they become vacant. Succession planning is a key component for a continually developing and healthy fire service. EM&T is recommending that a review of all staff positions and job descriptions, including officer qualifications, be clearly identified and that a more formal promotional process be implemented in conjunction with corporate HR policies and process. This formal promotional process would lend itself well to creating a succession plan.

4.4 Training Facility

HLBFD has a training facility that was also a recognized RTC by the OFMEM. This RTC status has been suspended by the Department pending a review and report to be presented by the fire chief. The fire chief's report will present an update on the RTC activities, revenues received and/or possible losses based on actual operating costs.

There is no doubt that a proper training facility can be a large capital cost and must be considered when the organization evaluates the risk management and liability exposure of not having proper facilities to train and certify firefighters to the level required in-order to deliver the services as outlined in the current E&R By-law.

Recommendation(s)

Rec #	Responsibility	Recommendation	Suggested Timeline
8	HLBFD	Implement the utilization of an additional administration position of assistant deputy fire chief or a secondment opportunity from the current staff complement to act in a role that supports the fire chief and deputy fire chief.	Mid-term (4 – 6 years)
9	HLBFD	Develop a plan on what can be accomplished with the department's present fire prevention staffing complement, along with presenting options for increasing inspection frequencies through utilization of fire officers and/or an additional full-time fire prevention personnel.	Immediate (0 – 1 years)
10	HLBFD	Review and revise the Training Officer's job description in conjunction with Human Resources and that an annual plan be developed, implemented, and assessed. - Consider the use of trained and qualified Volunteer firefighters/officers to assist with delivery of training programs.	Immediate (0 – 1 years)
11	HLBFD	A review of all staff positions and job descriptions, including officer qualifications, be clearly identified and that a more formal promotional process be implemented that is in conjunction with corporate HR policies and process.	Short-term (1 – 3 years)
12	HLBFD	Evaluation and review of training facility/RTC requirements which include policies and procedures, funding (capital and operating), staff, equipment, vehicle resourcing, and HLBFD training priorities and needs. - Suspend further operations until such time as a clear, funded, business case can be developed, reviewed, and approved in collaboration with corporate finance staff.	Immediate (0 – 1 years)

SECTION 5

Fire Suppression

5.1 Fire Suppression/Emergency Response

5.2 Medical Response

5.3 Burning Complaints

5.4 Technical Rescue/Hazardous Materials

5.5 Dispatch/Communications

5.6 Radio System

5.7 Vehicle Technology

5.8 Health and Wellness

5.9 Recruitment and Retention

SECTION 5: FIRE SUPPRESSION

5.1 Fire Suppression/ Emergency Response

Based on Provincial legislation such as the Fire Protection and Prevention Act (FPPA), HLBFD is recognized as a composite fire department because it has more than one full-time staff member. But under NFPA standards it is still recognized as a volunteer department, and as such the NFPA 1720 standard for volunteer fire departments is of value for this review. As already noted, the NFPA is not a mandated standard, it is accepted as an industry best practice. Standards and industry (recognized) best practices help to inform the fire chief and staff of how the department's work and training programs can be addressed but the do not define or mandate how they must be implemented.

When volunteer and composite departments receive a call for service, the volunteer firefighters are often not in the station when the call comes in. They must drive to their assigned fire station, change into their bunker gear, board the apparatus, and then respond; this is referred to as the 'turnout' time. Based on the 2020 data, the turnout time for HLBFD ranged from seven to nine minutes.

5.1.1 NFPA Response Requirements

Chapter 4 of the NFPA 1720 Standard identifies the number of response personnel for the deployment of volunteer firefighters:

- Section 4.2.1: "*the Fire Department shall identify minimum staffing requirements to ensure that a sufficient number of members are available to operate safely and effectively.*
    - *In Urban areas (population greater than 386 people per square kilometer/1,000 per square mile), there should be a minimum response of **15 staff within 9 minutes**, 90 percent of the time.*
    - *In Suburban areas (population of 103 - 386 people per square kilometer/500 – 1,000 per square mile), there should be a minimum response of **10 staff within 10 minutes,** 80 percent of the time.*
    - *In Rural areas (population of less than 103 people per square kilometer/500 per square mile), there should be a minimum response of **6 staff within 14 minutes,** 80 percent of the time."*

With a current combined population of approximately 24,000 within approximately 750 square kilometres, HLBFD's communities fall into the rural standard with approximately 32 residents per square kilometer. This would require six firefighters on scene within 14 minutes 80% of the time.

Although, the HLBFD generally falls within the Rural response time standard under the NFPA 1720 definition, more developed areas like Huntsville are more densely populated than the rest of the total

coverage area. This area would potentially fall under the Suburban population density. Therefore, the fire chief should consider developing a standards of cover with the previously noted response times in mind. But this standards of cover document must consider the needs and circumstances of the community and the level of service that the HLBFD can effectively support.

***Note**: To accomplish the National Fire Protection Association Standard, a fire department should endeavour to meet the stated minimum response standards based on responding to a 2,000-sq. ft. single family dwelling. The dwelling (noted in the Standard) does not have a basement or other exposures (buildings close enough to each other to create a greater possibility for fire spread). Most homes in Huntsville/ Lake of Bays have basements, however, and these homes are often built close enough to each other to create that "exposure" for potential fire spread, which must be considered by the fire department in its response efforts.*

The following table indicates the number of firefighters currently assigned to each station.

TABLE #6: Staffing Assigned to Each Station

Station	Station Chief	Captains	Lieutenants	Firefighters	Total
Stn. # 1 Huntsville	1	4	4	27	**36**
Stn. # 2 Port Cunnington	1	1	1	6	**9**
Stn. # 3 Hillside	1 (Currently Vacant)	1	1	11	**14**
Stn. # 4 Baysville	1	3	2	17	**23**
Stn. # 5 Port Sydney	1	2	2	12	**17**

During this review of station assignments, it was noted that not all of the firefighters are assigned to stations that are close to their residence. EM&T were advised by the fire chief that the assignments were divided as logistically as possible, but the goal was to ensure an even distribution of firefighters and officers at each fire station.

To enhance response efficiencies, it is recommended that the fire chief review the firefighters' station assignments to better realign them to stations closer to their place of residence. Further, HLBFD should develop a policy that requires firefighters to notify the fire chief when they move and for the

fire chief to transfer them to the most appropriate station. This has the potential to improve turnout times on emergency calls.

Fire Response Curve:

When considering the response times and needs of a community, the fire response curve (FIGURE #5) presents the reader with a general understanding of how fire can grow within a furnished residential structure over a short period of time. Depending on many factors, the rate of growth can be affected in several different ways, which can increase or suppress the burn rate through fire control measures within the structure. As an example, some older legacy homes, fire spread and flashover may progress slower than newer homes due to the type of construction and contents. Some older homes may not witness flashover for up to 25 minutes. Whereas newer homes could incur flashover in as little as four minutes within the room or origin.

***Note**: Flashover is a situation in which the entire contents of a room ignite due to the extreme high heat conditions. This situation is not survivable by unprotected occupants that may caught in this type of situation. Even firefighters are at great risk of severe injury and/or death due to the extreme fire and heat conditions within the area of the flashover.*

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 department and response location.
- The layout of the community.
- Impediments such as weather, construction, traffic jams, lack of direct routes (rural roads).
- Notification time.
- Assembly time of the firefighters, at the fire station and at the scene of the incident.
    - Assembly time includes dispatch time, travel to the fire station, and response to the scene. It should be noted that assembly time can vary greatly 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.

As illustrated in the following fire propagation diagram, the need for immediate initiation of fire suppression activities is critical.

FIGURE #5: Fire Response/ Propagation Curve

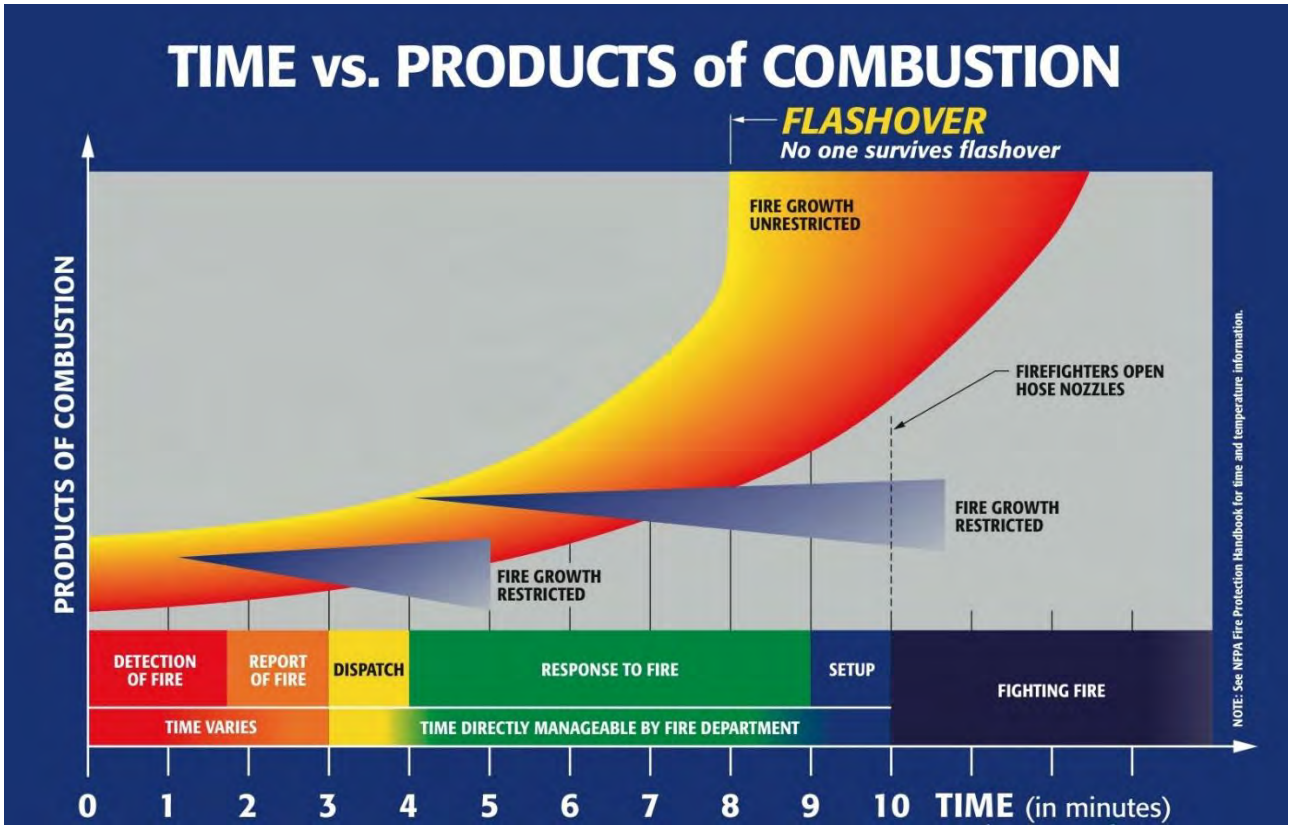


FIGURE #5 notes the following time variables:

- Detection of fire – this is when the occupant discovers that there is a fire. For the purposes of this chart, detection time is noted as being within one to one and half minutes – this could in fact be shorter or longer. 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 is calling 9-1-1 for help.
- Dispatch – the time it takes the dispatcher 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 – the time from when the crew advises dispatch that they are responding, until the time that they report on scene.
- Setup time – the time it takes for the fire crews to get ready to fight the fire.
- Fighting the fire – time it takes to extinguish the fire on scene.

The overall goal of any fire department is to arrive at the scene of the incident as quickly and as effectively as possible. If a fire truck arrives on scene in ten minutes or less, there is increased opportunity to contain the fire by reducing further spread to the rest of the structure.

In relation to on scene staffing, based on studies and evaluations conducted by the National Institute of Standards and Technology (NIST) and the NFPA, no interior attack is to be made by the firefighters until sufficient personnel arrive on scene. The expectation is that a minimum of three firefighters and one officer arrive on scene to make up the initial fire suppression team. This team of four can effectively do an assessment of 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, as well as unload and advance the fire hose in preparation for entry into the structure. A team of four also allows for adherence to the recommended "two-in, two-out" rule, referring to the presence of two firefighters inside the structure with two outside ready to go in as back-up.

The fire chief must ensure that each station has a complement that allows for an initial full crew response to incidents. To accomplish this, a response protocol is in effect that ensures whenever a station and its firefighters are dispatched to any type of call where back-up may be required, another station is automatically dispatched to the same incident. Currently, due to the decreased number of firefighters at the Hillside Station, the Port Cunnington Station is often dispatched at the same time to ensure adequate staffing is enroute.

5.1.3 Response Data

Based on a review of the response data supplied, along with discussions with the fire chief, HLBFD is achieving a varying level of success in meeting the NFPA response criteria. By utilizing this information in conjunction with the supplied response maps created by EM&T, we can see the effect of road networks, traffic levels, and traffic control systems on response times by emergency responders. As such, HLBFD response times should be monitored based on the OFMEM definition, which is from "dispatch time, to time of arrival at the incident"; in other words, from the time the call is received, to when the fire station or pager tones activate, to when the firefighters get on the fire trucks and arrive at the emergency scene location.

Performance measurements that the fire department could benefit from include monitoring:

- Response time: the total time from receipt of call (on 9-1-1) to the time the fire vehicle arrives at the incident location.
- Firefighter turnout time: time from page until the first vehicle is responding.
- Drive time: time from when the fire vehicle has left the station until arrival at the incident location.

- Staffing time: time from the page until the appropriate number of firefighters are on scene (e.g., 10 firefighters).

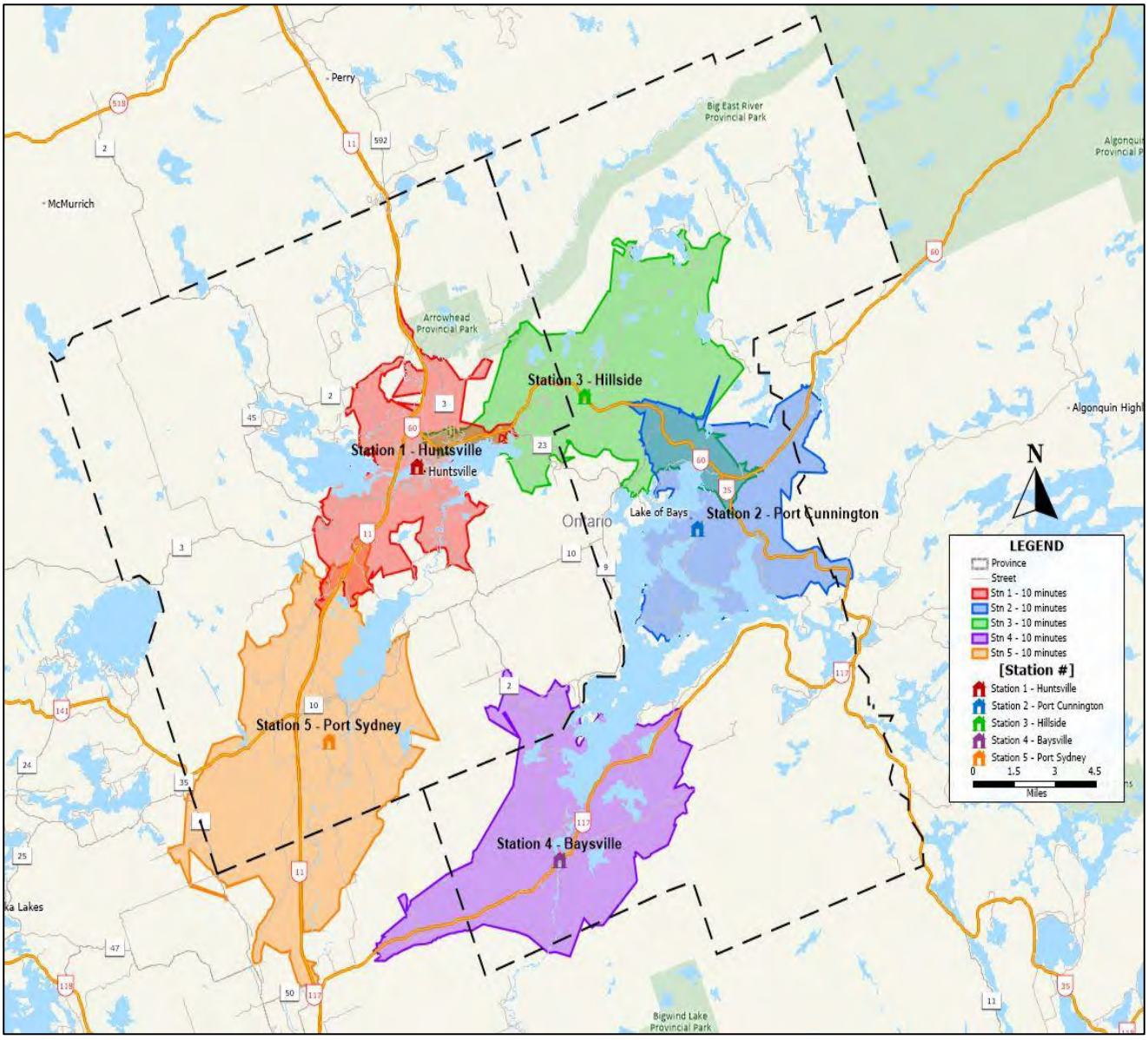
In reviewing the 2020 drive times, it was found that the majority of the time the apparatus arrives on scene is between 11 and 13 minutes. The FIGURE #6 map indicates the areas the crews may arrive within a 10-minute drive time.

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

- *8 out of 10 times the fire department arrives on 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 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 geographic information system (GIS) software Caliper Maptitude, which uses the road network with the posted speed limits, factoring in direction of travel, traffic lights, and stop lights. While the posted speed limit is used, it is understood 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, there will be times due to weather conditions, construction, and traffic congestion that the fire apparatus will be travelling at speeds lower than the posted speed limit (even using emergency lights and sirens). Therefore, using the posted limit is a reasonable calculation in determining travel distance.

FIGURE #6: Location of Fire Stations with 10-Minute Travel Time Map



The response zone map identifies a level of coverage based on the physical locations of the stations relative to the NFPA recommended response times. With this illustration, there are many areas of the municipalities that the HLBFD cannot reach within a 10-minute response. One of the most significant inhibiting factors is many of the areas are forested, and/or also have lakes that impede road development.

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

TABLE #7: Summary of Total Emergency Call (fires and non-fires) for Huntsville, OFMEM Data

	Total	Loss Fire Structure	Loss Fire Other	Loss Fire Vehicle	No Loss Fire	No Loss Fire – Excluded	Non-Fire Call
2015	395	20	D/N/A	7	10	13	345
2016	384	10	D/N/A	8	4	25	337
2017	373	5	D/N/A	0	14	2	352
2018	493	8	D/N/A	7	22	16	440
2019	349	12	D/N/A	6	14	7	310
2020	405	20	D/N/A	8	17	8	360

TABLE #8: Summary of Total Emergency Call (fires and non-fires) for Lake of Bays, OFMEM Data

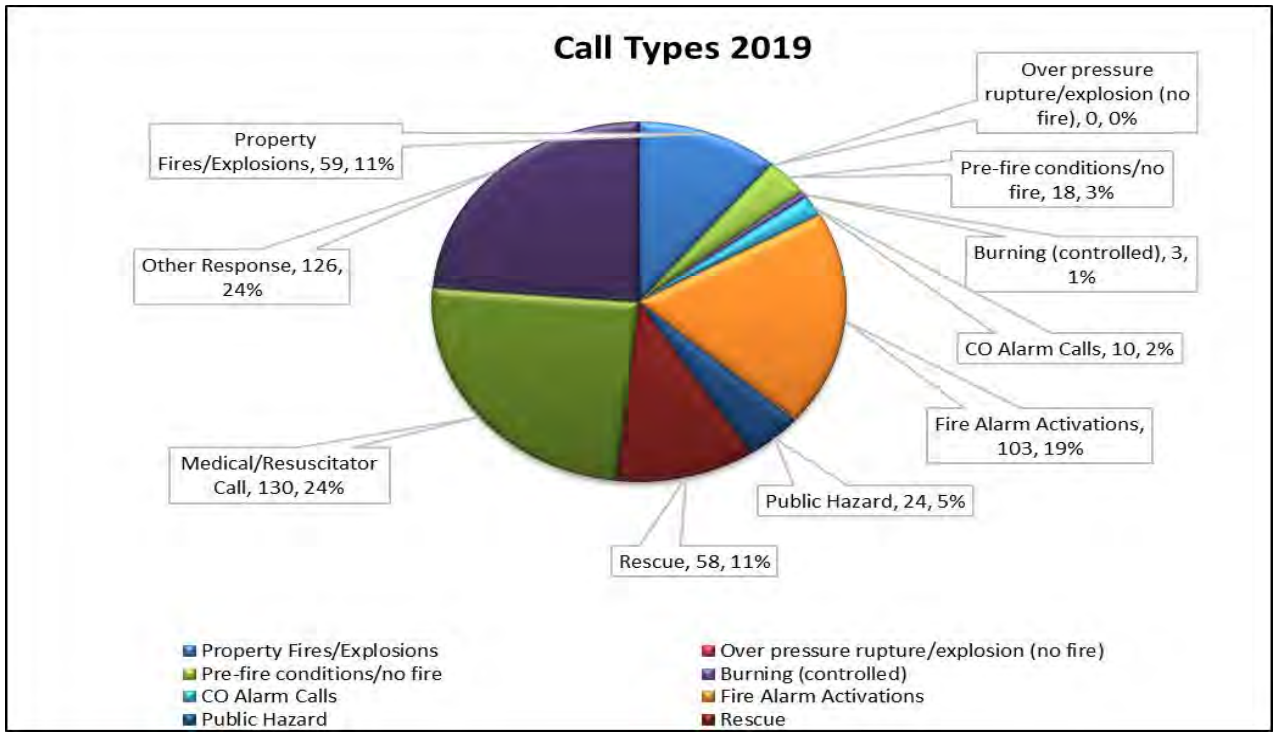
	Total	Loss Fire Structure	Loss Fire Other	Loss Fire Vehicle	No Loss Fire	No Loss Fire – Excluded	Non-Fire Call
2015	261	6	D/N/A	4	4	3	244
2016	222	1	D/N/A	2	0	6	213
2017	279	3	D/N/A	0	2	3	271
2018	246	2	D/N/A	3	4	4	233
2019	193	2	D/N/A	2	4	5	180
2020	260	3	D/N/A	1	5	3	248

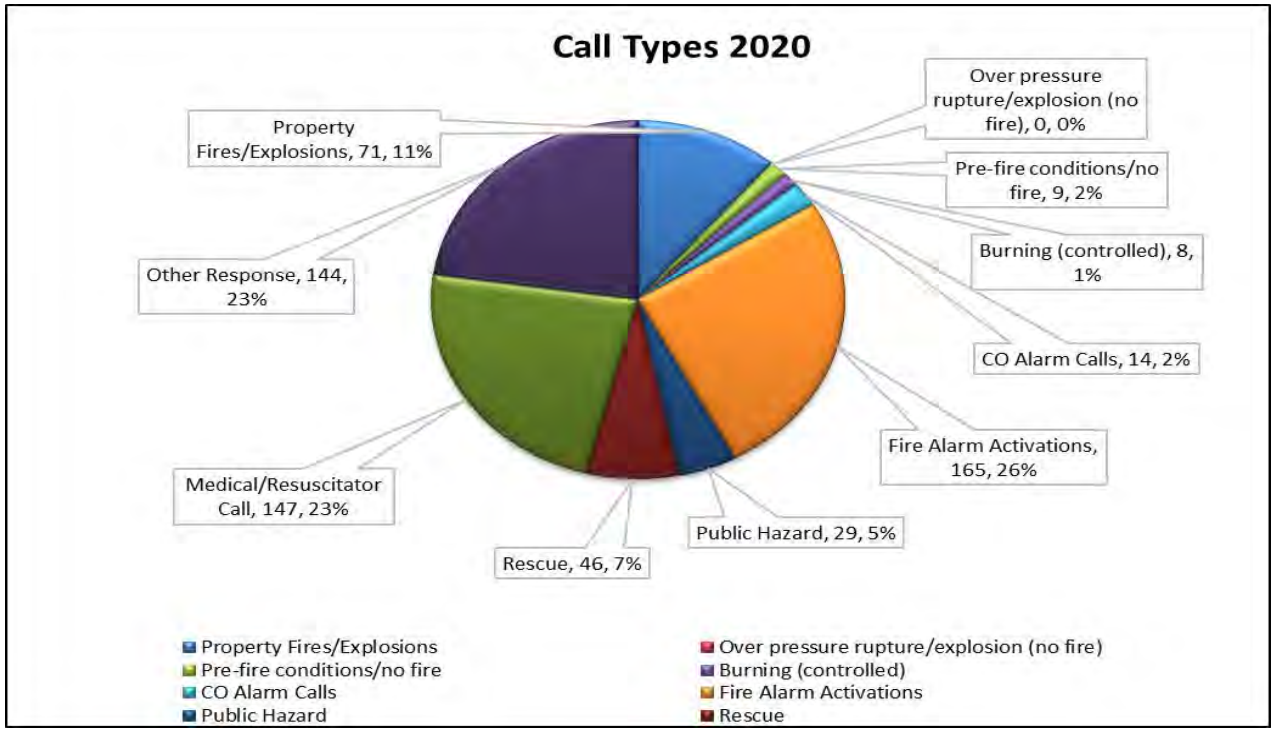
D/N/A – Data Not Available

FIGURES #7 and 8 illustrate the types of calls responded to by the HLBFD in 2019 and 2020. Additional charts with data for 2018 are available in Appendix E.

FIGURE #7: Call Types for all Stations in 2019 and 2020

Note: the information contained in the charts was supplied as the entire HLBFD, not based on each community's responses. However, call types by station have been identified in Figures 10 to 15.





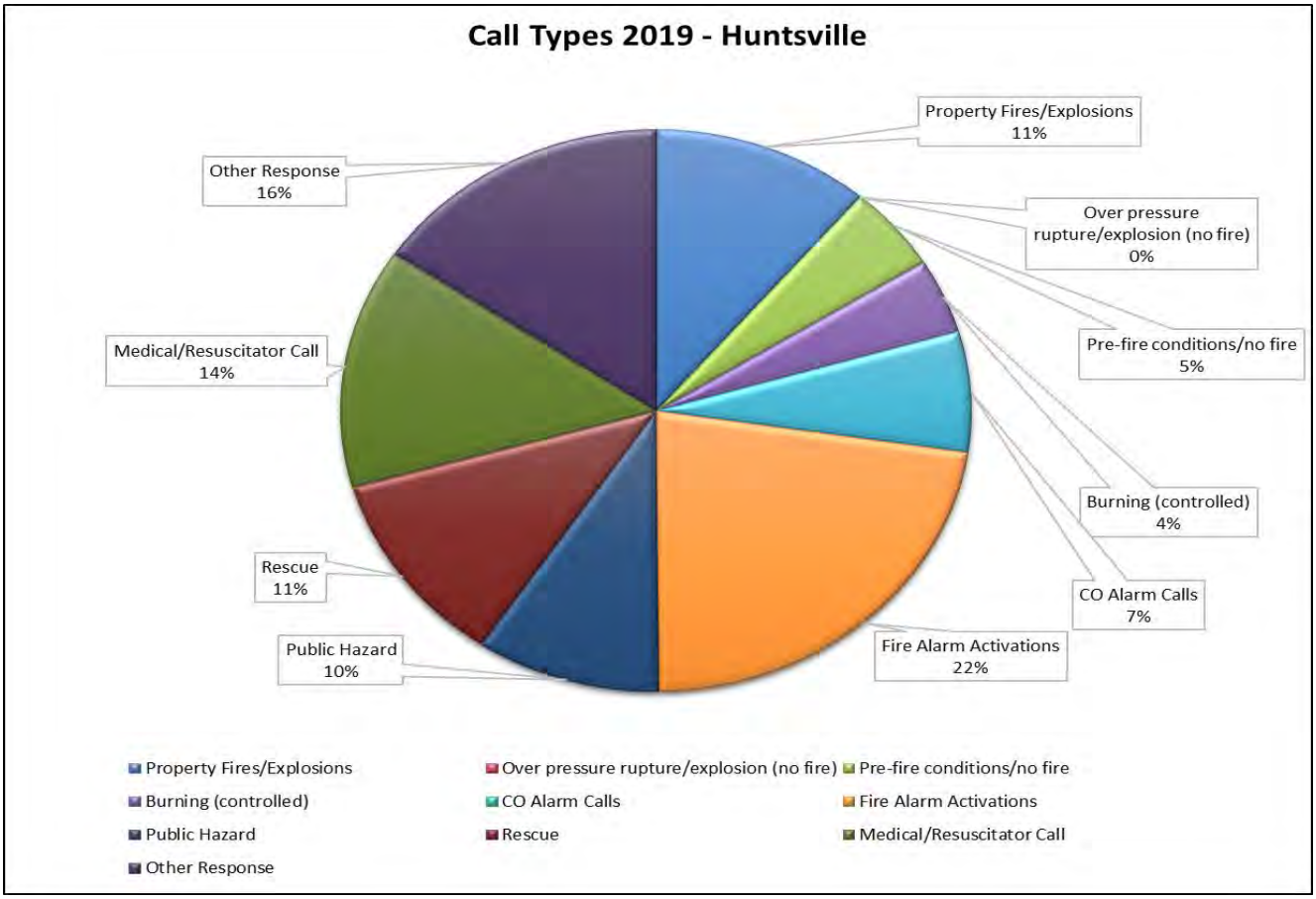
As illustrated in the above chart, the top three types of calls in 2020 that the entire HLBFD responded to were:

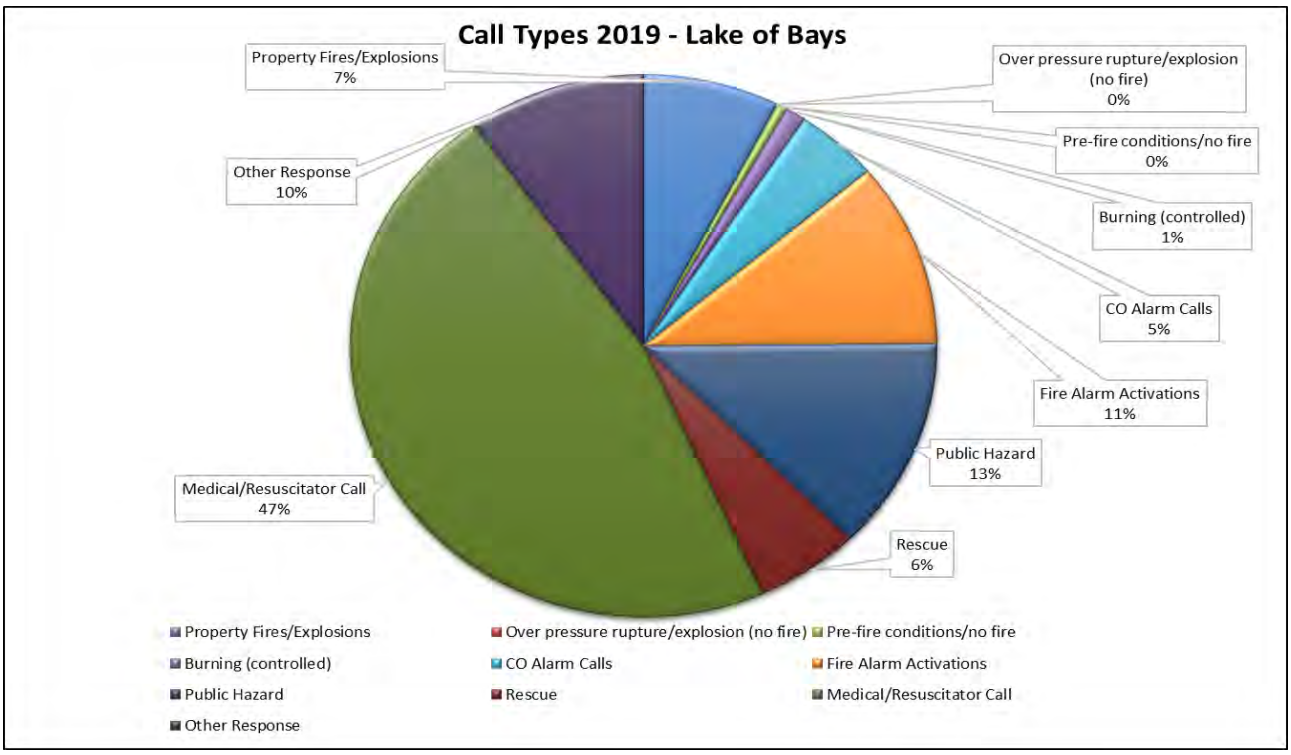
1. Fire alarm activations accounts for 29% of the responses
2. Medical and Other Responses individually account for 23% each
3. Property fires accounts for 11% of the responses

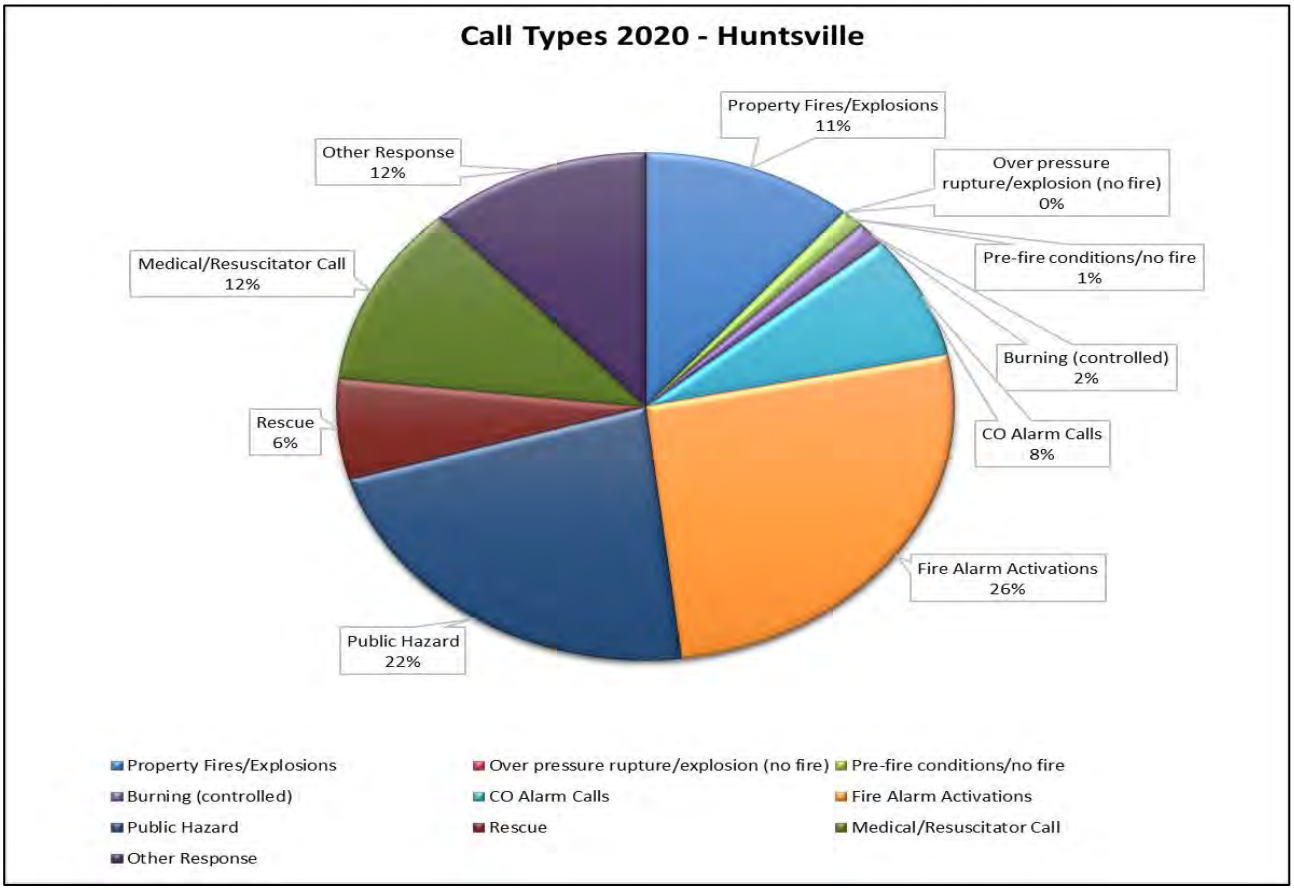
These top three types of calls have remained relatively the same over the past three years.

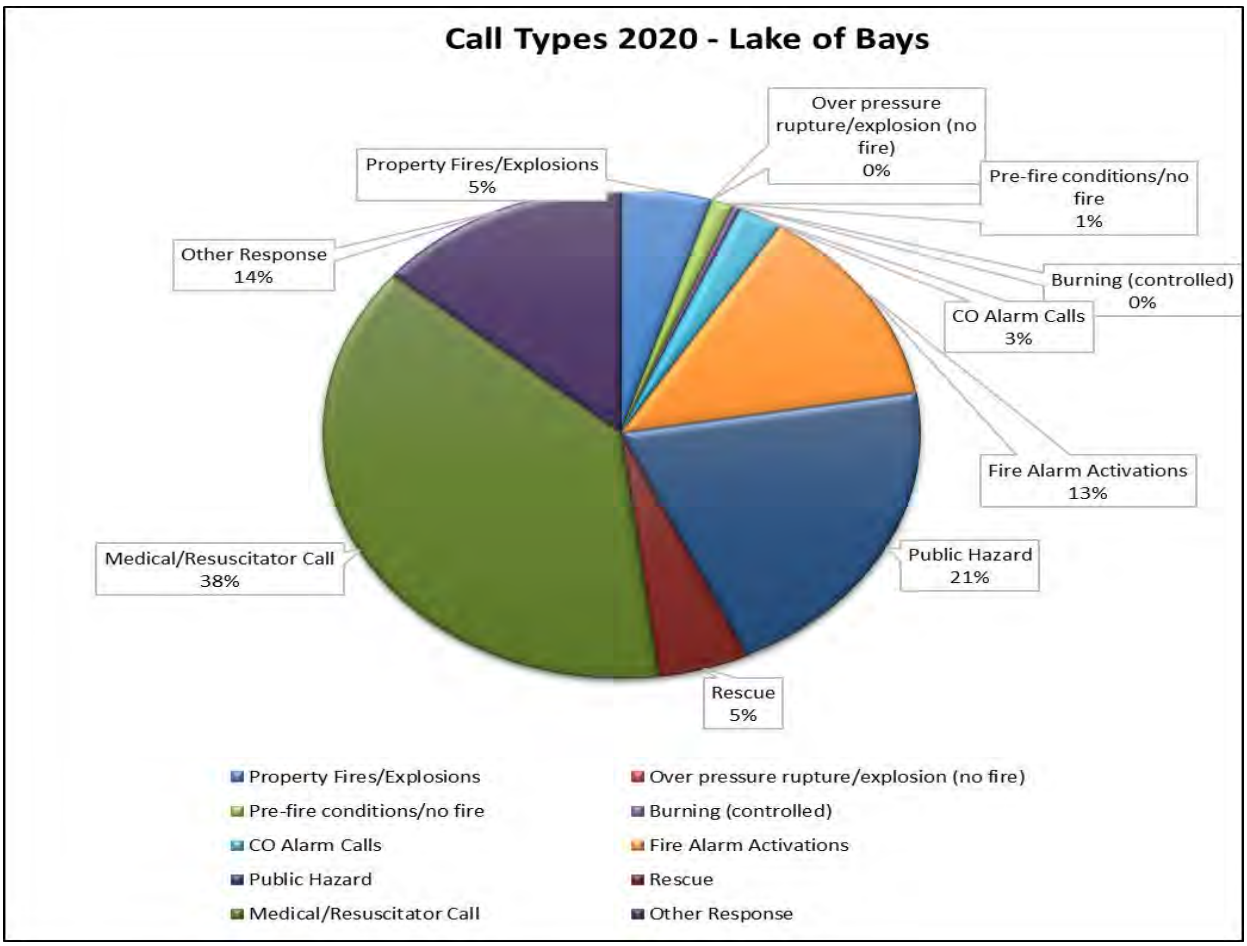
FIGURE #8: Call Types by Community in 2019 and 2020

The following four charts provide a breakdown of call types by community for 2019 and 2020.




Call Types 2019 - Lake of Bays
Property Fires/Explosions 7%
Over pressure rupture/explosion (no fire) 0%
Pre-fire conditions/no fire 0%
Burning (controlled) 1%
CO Alarm Calls 5%
Fire Alarm Activations 11%
Public Hazard 13%
Rescue 6%
Medical/Resuscitator Call 47%
Other Response 10%
Property Fires/Explosions
Over pressure rupture/explosion (no fire)
Pre-fire conditions/no fire
Burning (controlled)
CO Alarm Calls
Fire Alarm Activations
Public Hazard
Rescue
Medical/Resuscitator Call
Other Response

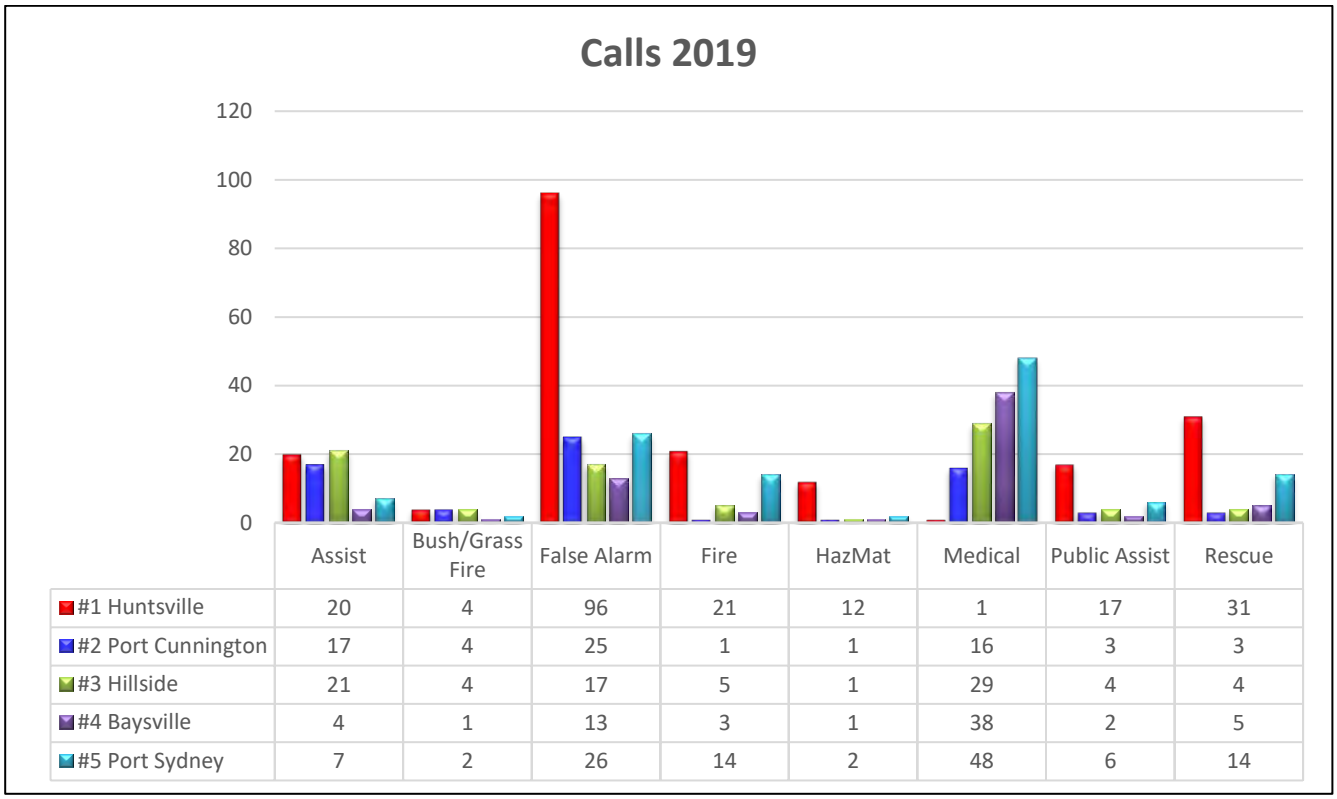

Call Types 2020 - Huntsville
Property Fires/Explosions 11%
Over pressure rupture/explosion (no fire) 0%
Pre-fire conditions/no fire 1%
Burning (controlled) 2%
CO Alarm Calls 8%
Fire Alarm Activations 26%
Public Hazard 22%
Rescue 6%
Medical/Resuscitator Call 12%
Other Response 12%
Property Fires/Explosions
Over pressure rupture/explosion (no fire)
Pre-fire conditions/no fire
Burning (controlled)
CO Alarm Calls
Fire Alarm Activations
Public Hazard
Rescue
Medical/Resuscitator Call
Other Response



FIGURES #9 to 12 break the call types down by station. As indicated, many of the call types are pre-fire conditions, fire alarm activation, or property fires. With so many fire alarm activations, many of them are false alarms caused by faulty equipment or testing of alarm systems without notifying the answering service, etc. The fire chief has taken measures to assist in reducing the number of false fire alarm calls that the crews are called to in the form of invoicing for unnecessary call outs.

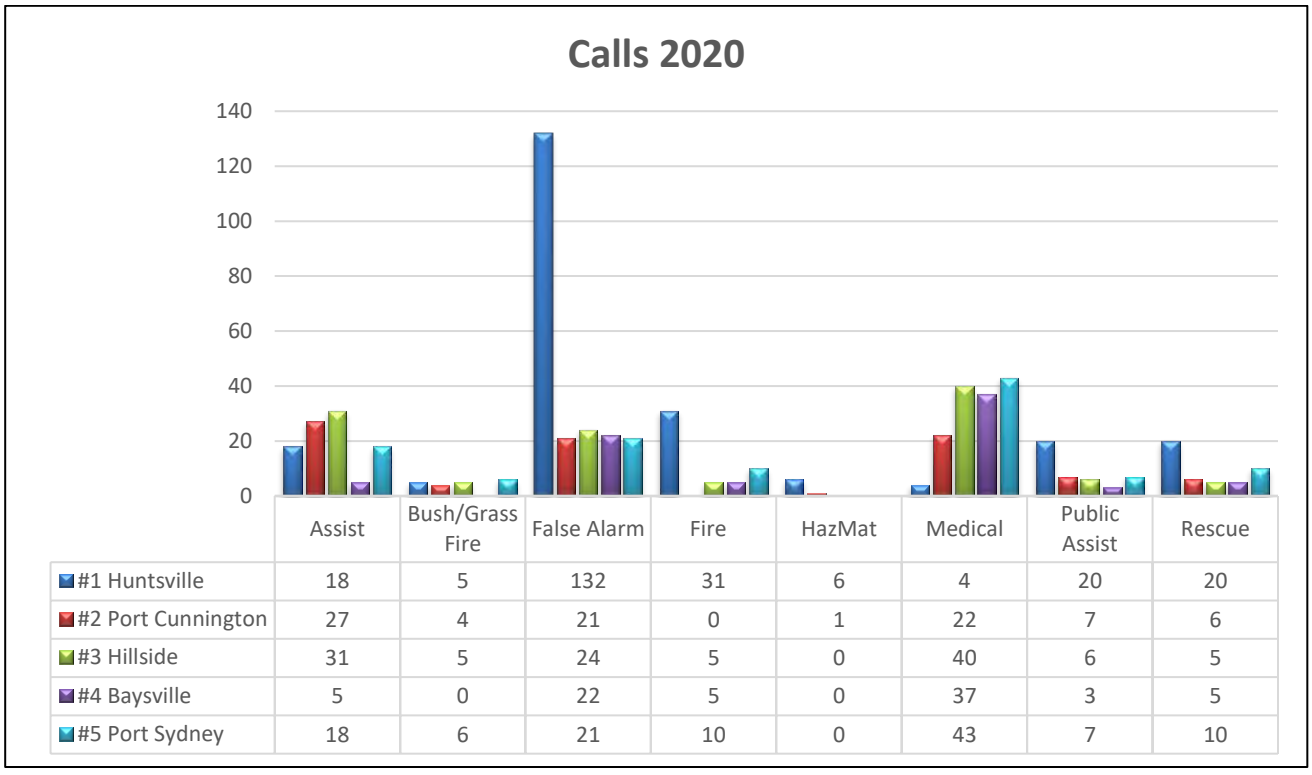
It should be noted that the following data charts **do not** include any responses in which only a senior officer responded. Only calls in which a station was dispatched are used.

FIGURE #9: 2019 Call Types by Station



	Assist	Bush/Grass Fire	False Alarm	Fire	HazMat	Medical	Public Assist	Rescue
#1 Huntsville	20	4	96	21	12	1	17	31
#2 Port Cunnington	17	4	25	1	1	16	3	3
#3 Hillside	21	4	17	5	1	29	4	4
#4 Baysville	4	1	13	3	1	38	2	5
#5 Port Sydney	7	2	26	14	2	48	6	14

FIGURE #10: 2020 Call Types by Station



	Assist	Bush/Grass Fire	False Alarm	Fire	HazMat	Medical	Public Assist	Rescue
#1 Huntsville	18	5	132	31	6	4	20	20
#2 Port Cunnington	27	4	21	0	1	22	7	6
#3 Hillside	31	5	24	5	0	40	6	5
#4 Baysville	5	0	22	5	0	37	3	5
#5 Port Sydney	18	6	21	10	0	43	7	10

FIGURE #11: 2019 Total Calls Per Station

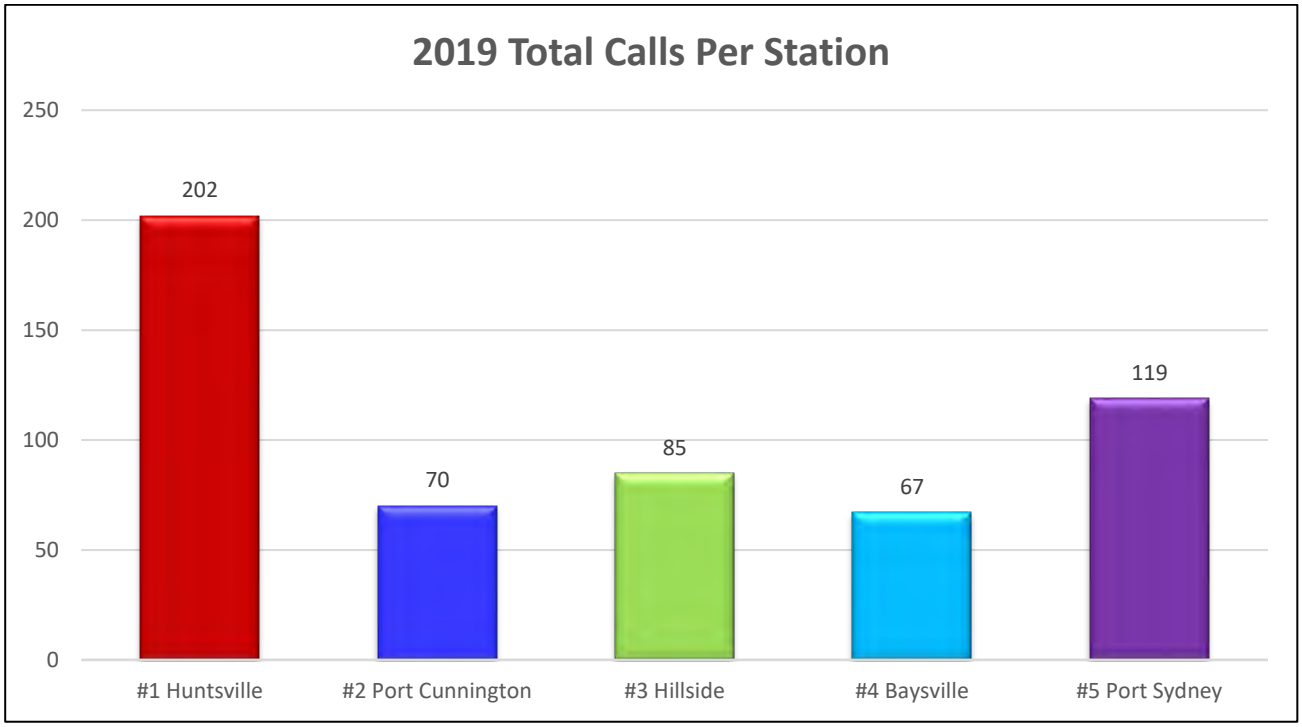
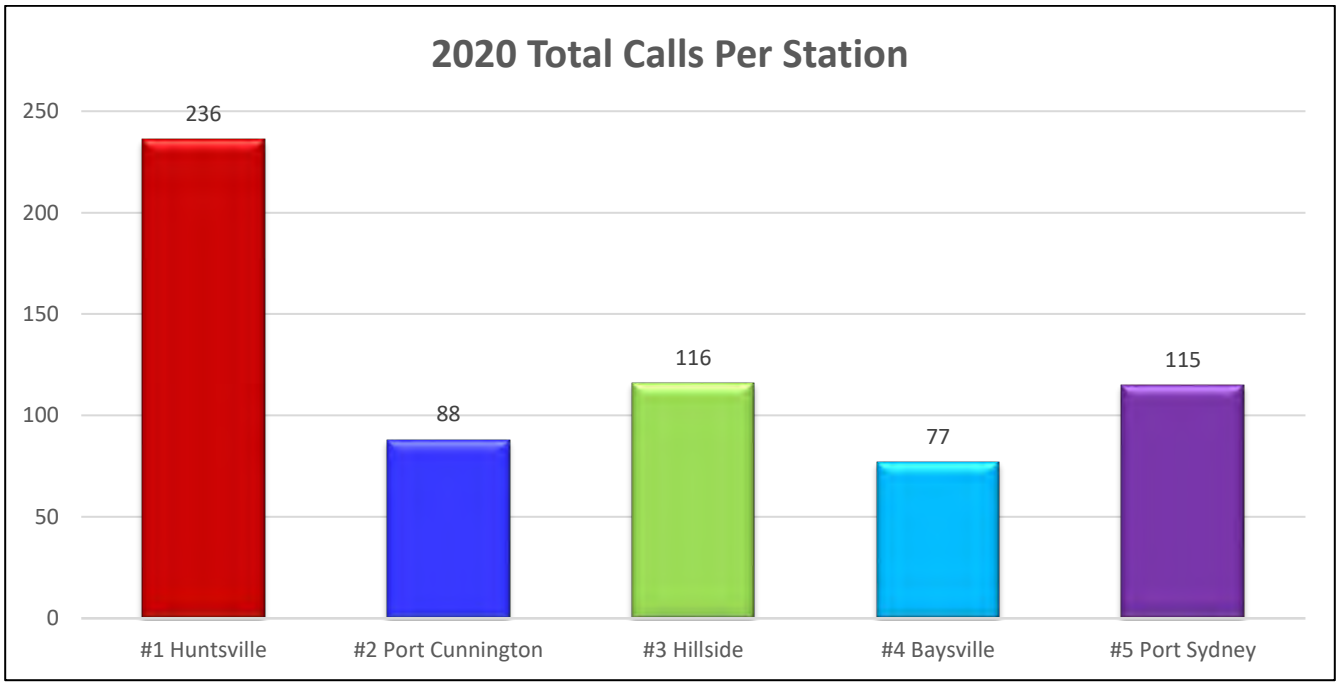


FIGURE #12: 2020 Total Calls Per Station



FIGURES #13 and 14 illustrate the 80th percentile turnout times; this respresents the time it takes from when the firefighters are dispatched to when the first apparatus is in motion traveling to the location of the incident.

FIGURE #13: 2019 Turnout Times by Station

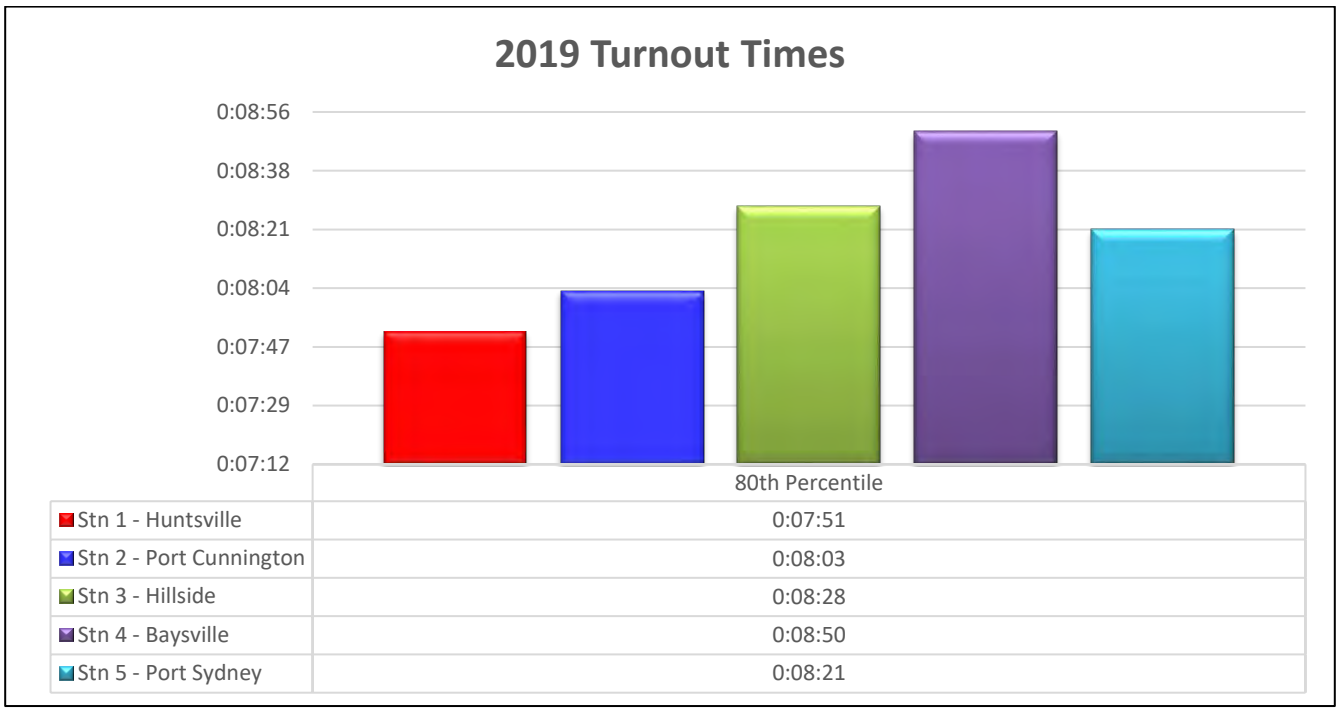
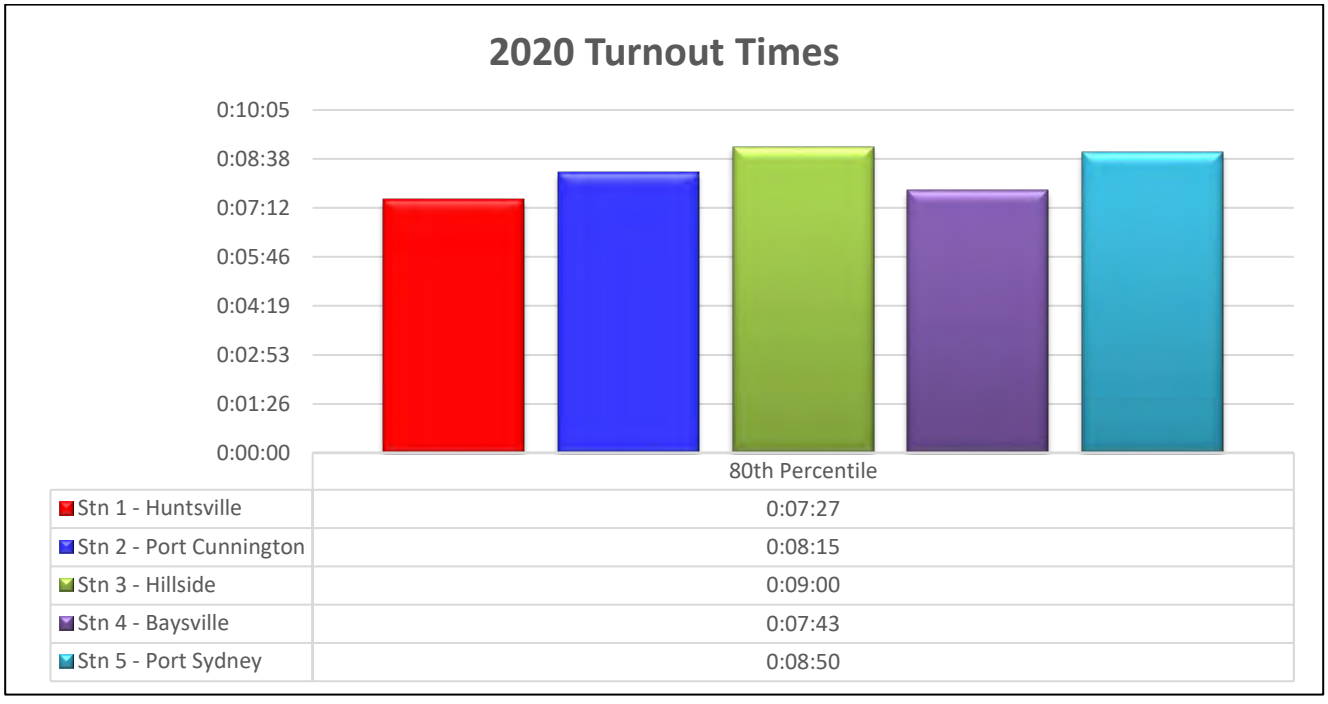
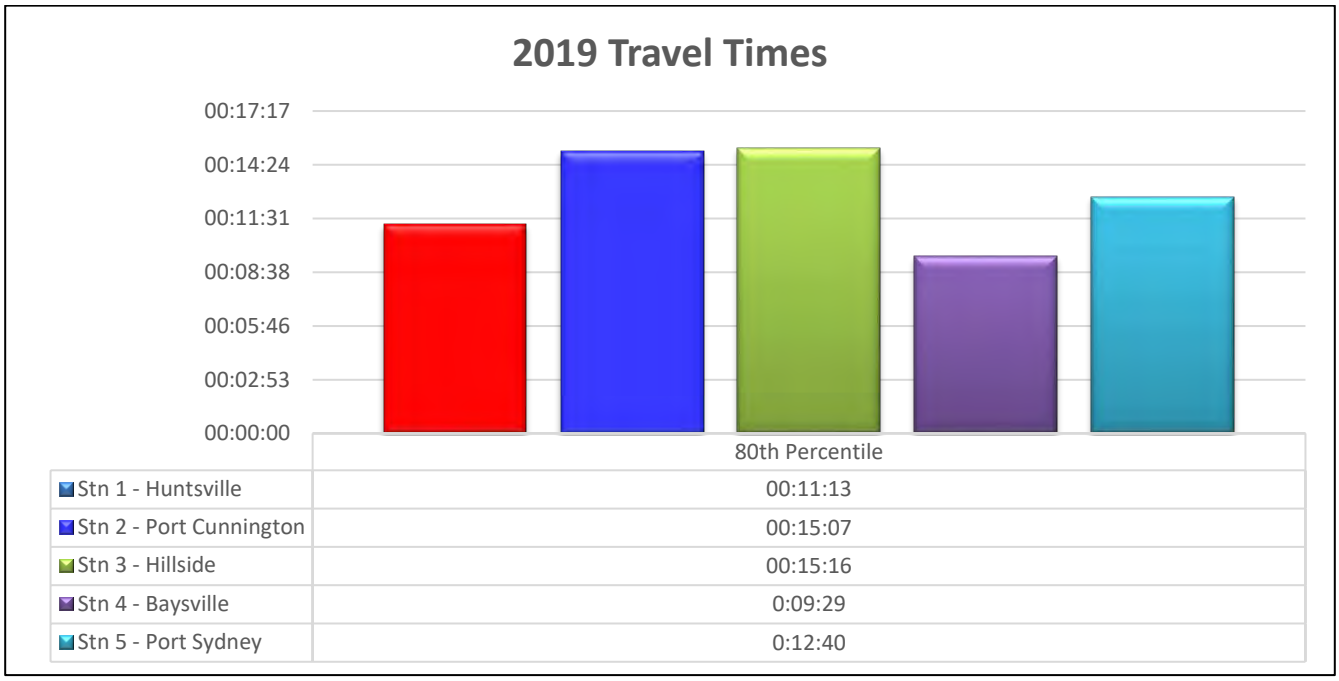


FIGURE #14: 2020 Turnout Times by Station



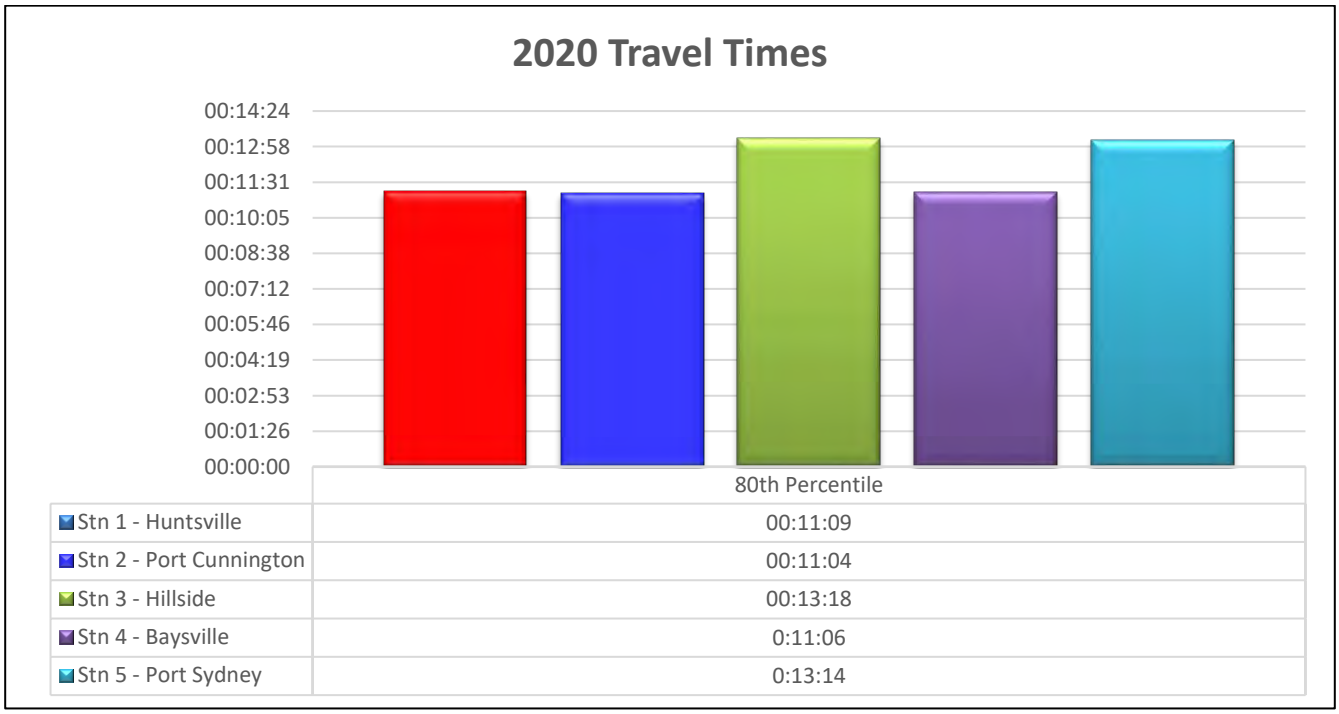
The following charts outline the 80th percentile travel times for each station. The travel time is measured from the time the apparatus leaves the station, to the time it arrives at the incident.

FIGURE #15: 2019 Travel Times by Station



	80th Percentile
Stn 1 - Huntsville	00:11:13
Stn 2 - Port Cunnington	00:15:07
Stn 3 - Hillside	00:15:16
Stn 4 - Baysville	0:09:29
Stn 5 - Port Sydney	0:12:40

FIGURE #16: 2020 Travel Times by Station



	80th Percentile
Stn 1 - Huntsville	00:11:09
Stn 2 - Port Cunnington	00:11:04
Stn 3 - Hillside	00:13:18
Stn 4 - Baysville	0:11:06
Stn 5 - Port Sydney	0:13:14

The following charts outline the 80th percentile response times for each station. The response time is measured from the time the call is received, to the time the first apparatus arrives at the incident.

FIGURE #17: 2019 Response Times by Station

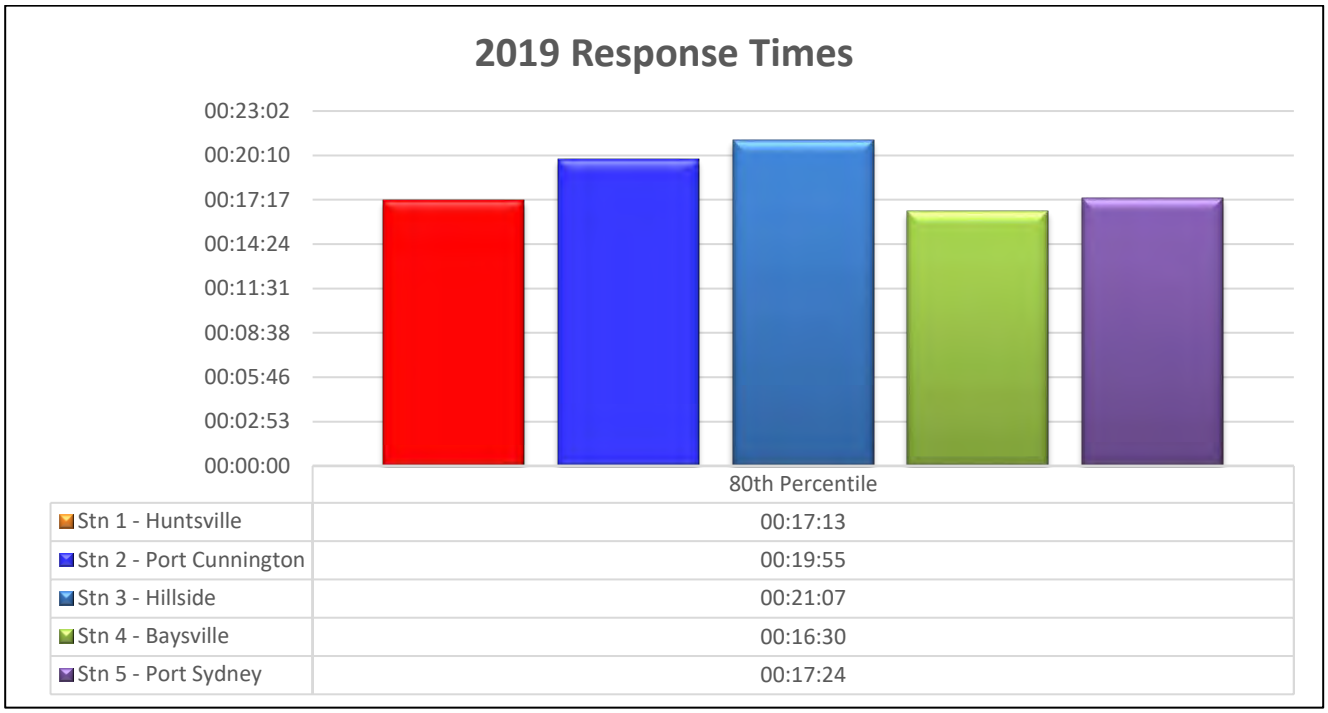
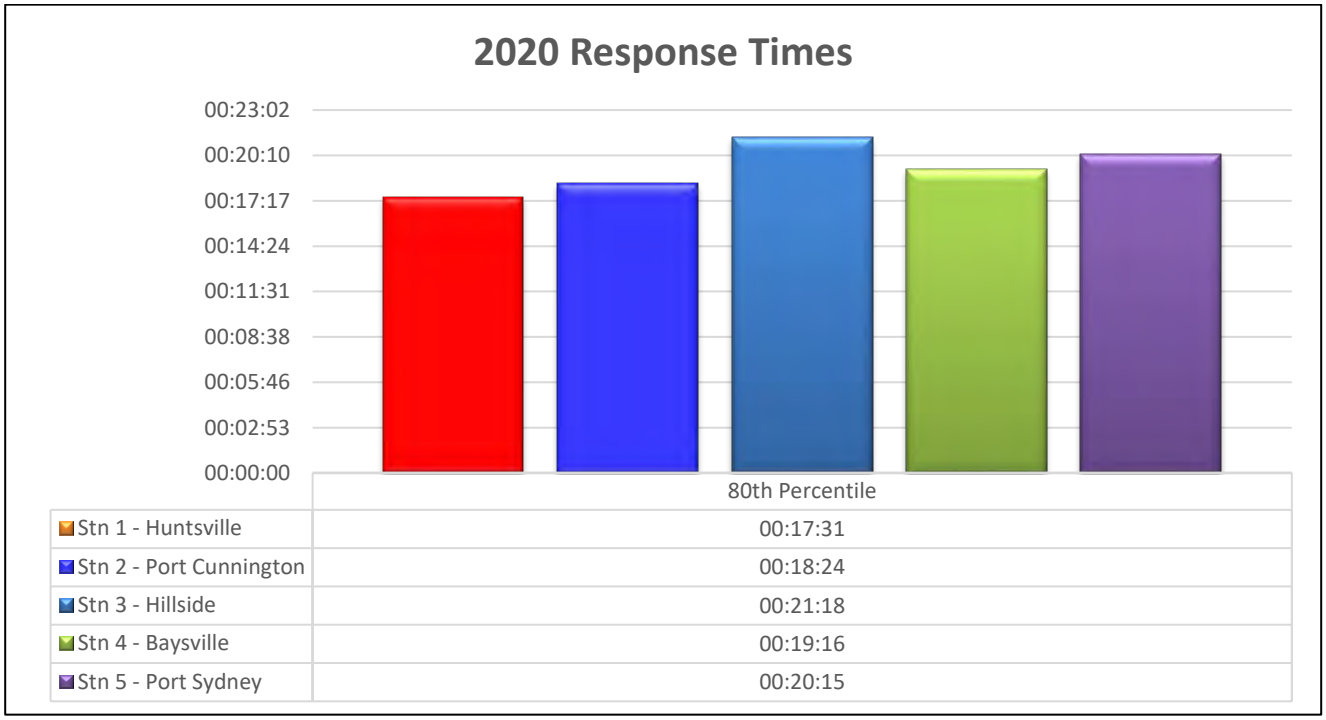


FIGURE #18: 2020 Response Times by Station

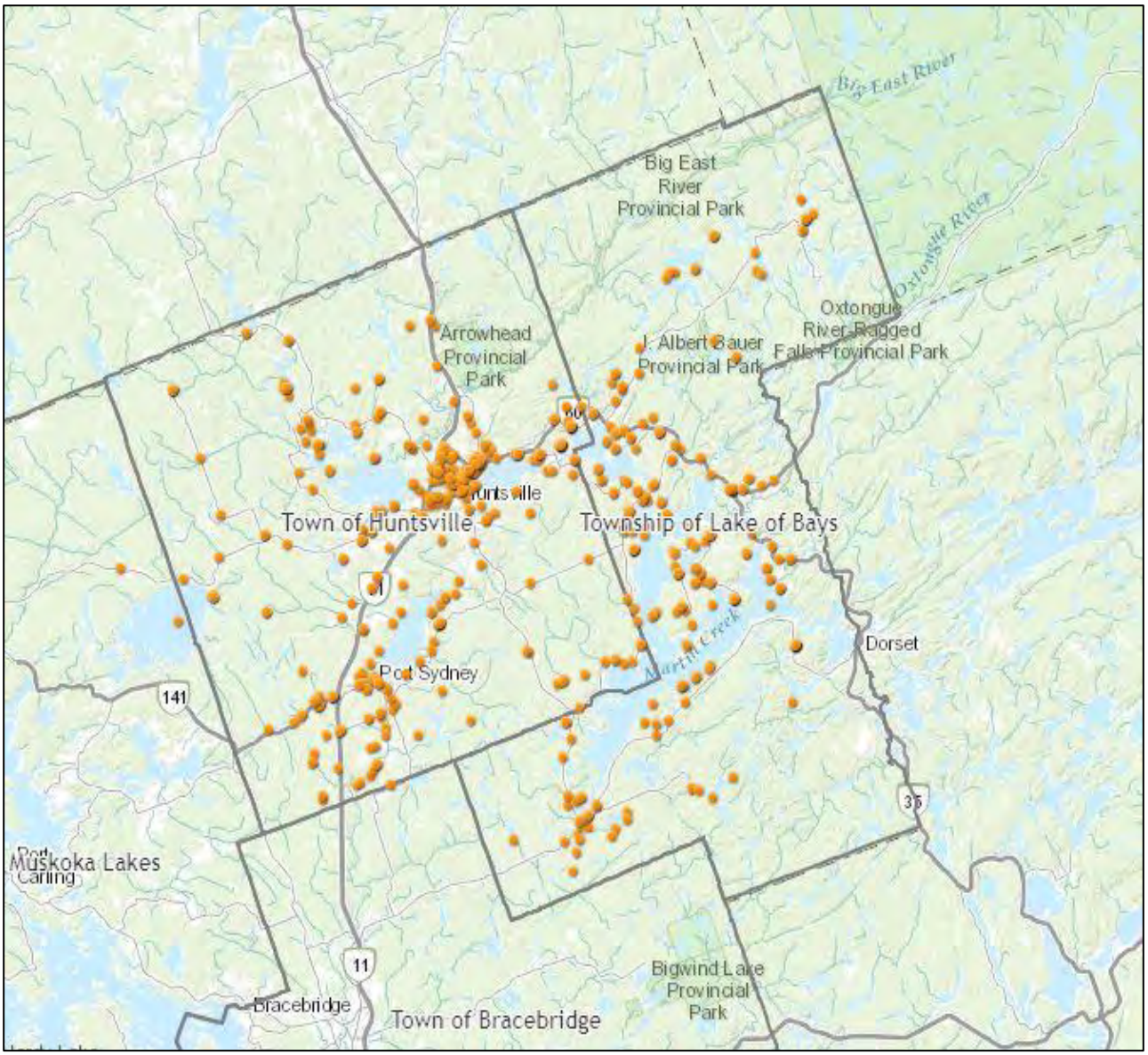


Call Cluster Map

Another useful tool in measuring fire service response can be done through pinpointing where the bulk of the emergency responses are occurring. This clustering of responses will help to identify where the majority of calls are occurring, which will indicate if the present fire station locations are adequately positioned, or if there a shift in call locations that would suggest the possible need for the relocation of a fire station.

Figure #19, present a visual outline of where the bulk of the 2020 responses occurred within Huntsville and Lake of Bays. As can be seen by the map,

FIGURE #19: Call Cluster Map for 2020



Although adherence to the NFPA response times is not mandated, it would be beneficial for the fire chief to have a response time goal supported by council as a benchmark. As such, it is recommended that the fire chief present a response time goal for the approval of council (which may reference NFPA 1720 – the expectation of 10 staff in 10 minutes (80th percentile)), and that performance measures are continuously monitored. This recommendation is only meant to provide HLBFD a goal/guideline to aim for, not as a mandated expectation.

5.1.4 Staffing Considerations

Communities often ask when the fire department should consider moving to a career or composite (career and volunteer) model, thus reducing the reliance on its volunteer firefighters. There is no document that specifically identifies the tipping point for this move. It is based on the level of service set by the community's council, coupled with regular reports by the fire chief on how the Department is meeting service level expectations.

There are many factors including the number of volunteers arriving when paged out, how quickly they respond to the page, minimum staffing for apparatus turnout time and number based on the time of the day, and day of the week (e.g., volunteer availability during day shift vs. night shift), etc. Another consideration is the recruitment and retention of the volunteers based on the turnover with many younger volunteers actively looking for a full-time firefighting career, or loss of the volunteer due to other family and work commitments. Compensation packages can also be a contributing factor when they are not up to date or aligned with comparable industry organizations.

Recruitment and retention of volunteers is a significant challenge within the fire service with the increase in training that must be committed to annually and with staff turnover. As with many volunteer fire departments, the daytime hours from Monday to Friday are the greatest challenge for volunteer response due to fact that many volunteer firefighters are either at their full-time employment, school, or taking care of family. As such, some municipalities add full-time firefighters Monday to Friday during dayshift to compensate for a reduced volunteer availability.

Another indicator for making this decision is tracking the number of volunteer firefighters that arrive at the fire station to respond. 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 monitored along with how many times the department is unable to assemble the needed personnel based on time of day and day of the week. Continued monitoring of this data will assist with future fire service needs.

Another alternative is to implement a level of full-time firefighters to guarantee a response component. Going to a larger composite or full-time service is a considerable cost to the community ($2 -2.5 million annually per 24/7 fire truck staffed by career firefighters) and therefore any

community that has decided to move to this staffing model lays out a plan to accomplish this in stages. One such model is adding full-time firefighters Monday to Friday on eight-hour dayshifts to meet the needs of the community when volunteer availability is at its lowest. This model has an annual cost of approximately $600,000-700,000 for one truck during these hours. The costs for additional staff go beyond wages, which may include additional equipment and gear for the firefighters, along with any improvements required for the fire station itself, such as living quarters. Any consideration to moving to such a full-time model must be fully evaluated.

EM&T are not recommending an increase in full-time staff, at this time. The HLBFD's model of a combination fire department is a very cost-effective form of fire protection for a community of its size. Huntsville/Lake of Bays has taken advantage of this model including fire service agreements with neighboring fire departments to minimize costs and provide timely response. HLBFD should continue to investigate other opportunities identified in this report to maintain a combination service and keep staffing cost minimized.

5.2 Medical Responses

The municipalities entered into a First Aid Assistance Agreement with the District of Muskoka dating back to 2014, the agreement is presently being updated. The 2014 agreement states that the fire departments will respond to all types of medical emergencies based MPS ability to respond within the predetermined timeline based on the call type. If MPS believe they can not respond within those predetermined times, the appropriate fire service is requested to respond. The firefighters are trained to the basic life support (BLS), which includes defibrillation.

To aid in the expenses of the fire department to respond to a tiered medical call, the District of Muskoka has agreed to pay the fire service for responding based on an agreed set rate, per hour.

The firefighters have been trained to administer both naloxone and epinephrine (Epi-Pens) to patients that may require that medication. To aid in the expense of ensuring the Epi-Pens on board the apparatuses are not past their best before dates, a seasonal resident has generously offered to pay for replacing the pens to ensure they are current.

The present level of medical response services provided by the HLBFD and the agreement with the MPS appear to be meeting the needs of the community.

5.3 Burning Complaint Calls

At times, often within rural residential properties, bonfires exceeding permitted allowances result in complaints to the fire dispatch centre.

Huntsville's Open Air Burning By-Law was last updated in 2019 while Lake of Bays' By-Law was last updated in 2013. LOB should review the current by-law and update it to meet current requirements and changing circumstances. Both by-laws should hold residents accountable to careless open fires that could result in a forest fire. This is a particular concern for areas close to Algonquin Park.

With the increase in seasonal and permanent residential suites, short-term accommodations (STAs), and population, HLBFD should amend the current by-law to prohibit the burning of leaves and grass clippings in built up residential areas. The smoke from burning leaves is known to cause respiratory events in persons with a history of bronchitis, asthma, chronic obstructive pulmonary decease, and other breathing ailments. Smoke traveling across roadways has been known to impede traffic and possibly cause MVCs.

The by-law could also be amended to include approved solid fuel burning appliances such as chimeneas or other appliances that are outfitted with spark arrestors in the chimney and on the opening where wood is introduced into the unit.

The by-law should reference OFC Article 2.4.4.4 regarding Open Air Burning.

Upon receipt of a burning complaint, it has been common practise to divert the request for the fire department to attend a burning complaint to the By-Law Enforcement Officers. This is a risk to the municipality in the event the fire in question gets out of control; the caller believes the fire department is enroute, when actuality is a by-law officer is. There then becomes an additional delay in getting resources to the location to extinguish the fire. Especially considering the dense forests throughout both municipalities, this diversion should either be discontinued or amended to include both fire and by-law be dispatched to complaints at the same time.

5.4 Technical Rescues and Hazardous Material Responses

Fire services are being called upon to provide enhanced level of service including technical rescues and hazardous material responses. The Ontario Ministry of Labour, Section 21 committee for fire services develop guidance notes for fire services to follow as best practises and direction from the OFMEM in these responses. Both groups note that firefighters should be trained to the awareness level for technical rescues and hazardous materials responses. The awareness level is an introduction to the rescue or HAZMAT incidents but does not allow for the mitigation of the incident.

The following list identifies the level of response HLBFD provides:

- **HAZMAT –** awareness level

- **Elevator Rescue –** Technician level for hydraulic systems and operations for cable systems. Training for elevators must meet the requirements of the Technical Safety Standards Authority (TSSA).
- **Silo Rescue** – No Level
- **Trench Rescue** – No level
- **High Angle Rope Rescue** – No level
- **Low Angle Rope Rescue** – Equipment acquisition and training to take place in 2021.
- **Confined Space** – No level
- **Ice/Water** – Boats available in LOB and Huntsville. Ice rescue response is at the technician level. It should be noted that operations of a marine vessel must follow Transport Canada regulations regarding the construction of boats and the training required as fire services follow the commercial regulations. HLBFD should review NFPA 1405, *Guide for Land Based fire Departments that Respond to Marine Vessel Fires* and NFPA 1925, *Standard on Marine Fire Fighting Vessels*.

5.5 Dispatching/ Communication Services

HLBFD receives its dispatching services from the Barrie Fire & Emergency Service. Based on information received, along with a review of the dispatching data, it would appear that HLBFD is receiving adequate dispatching services. It should be noted that each municipality has their own agreement between themselves and the Barrie Fire & Emergency Service.

Barrie Fire Control is also responsible for activating the notification of a call by paging over the portable radios, by pagers, real time texting (RTT) systems, or by email, to alert the volunteer firefighters to respond. The HLBFD uses the app, “Sinirji Responder” to communicate with the firefighters that there is a call, which is also interactive, for regular call notifications and if the normal communication systems fail. The app identifies the firefighters who are responding to the fire station/ call. If responses are low, a call can then be put out for additional resources.

Dispatch is supported by the CAD (computer aided dispatch) software program Symposium that effectively assists with timely dispatch. Reports of each incident’s dispatch log are forwarded to their clients for review and record for future reference. The CAD data is transferred to the Fire Pro computer program for reports to be completed and submitted to the OFMEM.

The agreement with Barrie Fire & Emergency Services details a fee for services provided along with related infrastructure and operations activities. The current agreement with Barrie for call taking and fire dispatch reflects an effective strategy for the HLBFD in providing these services. The fees are

based on a per capita formula that also incorporates seasonal residents. The agreements were last updated in 2019 and should be reviewed annually to ensure accuracy of services being provided to HLBFD.

The agreements do not outline that Barrie Fire & Emergency Services strives to meet the requirements of NFPA 1061, *Standard for Public Safety Telecommunications Personnel Professional Qualifications* and NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, which is used to identify dispatching service criteria. The addition of this requirement in the contract is worth consideration as an enhancement to the services provided to the HLBFD. As such, the fire chief may want to add these NFPA Standards to future agreements.

5.5.1 Next-Generation Communications (NG9-1-1)

The 911 Central Emergency Reporting Bureau (CERB) for Huntsville and Lake of Bays is through the Ontario Provincial Police at their communications centre in North Bay. Emergency 911 calls are directed to the police service and then directed to the emergency service that is required by the caller (i.e., ambulance or fire).

In June of 2017, the Canadian Radio-television and Telecommunications Commission (CRTC) created regulations regarding the next-generation communications for 9-1-1 centres. This modern technology will "…enable Canadians to access new, enhanced, and innovative 9-1-1 services with IP-based capabilities, referred to as next-generation 9-1-1 (NG9-1-1) 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."[28] 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***
>
> *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*

[28] Government of Canada, Canadian Radio-television and Telecommunications Commission, "Telecom Regulatory Policy CRTC 2017-182, Next-generation 9-1-1 – Modernizing 9-1-1 networks to meet the public safety needs of Canadians", last modified June 1, 2017, https://crtc.gc.ca/eng/archive/2017/2017-182.htm

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.

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 deadlines for the CISC Emergency Services Working Group to file certain reports. [29]

Current Condition

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 should ensure that Huntsville and Lake of Bays are stakeholders at the steering committee table through direct involvement or as part of the regional committee for this implementation plan.
- The municipalities must understand that there will be significant expenses for the fire dispatch to implement NG 9-1-1 and the Barrie Fire & Emergency Service will likely increase fees for all fire departments it dispatches to cover these additional costs.
- Currently there is no firm understanding as to the costs that are going to be incurred with the implementation and annual costs of NG9-1-1.
- Some fire services that have a communications centre have budgeted as much as $1M for the upgrades to 9-1-1.

5.6 Radio System

Radio systems have many technological advancements every year, making it difficult for fire services to maintain current standards. Some of these technologies are:

Simplex vs Repeater Radio Signals

A simplex radio system is best explained as radios that talk directly to each other (i.e., radio to radio). Radio signal strength using a simplex system is not as strong as using a repeater; a repeater system receives a radio message and then rebroadcasts it at a higher strength, 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 way from the radio that sent the signal; a digital radio signal maintains the same strength no matter how far the signal goes.

[29] Government of Canada, Canadian Radio-television and Telecommunications Commission, "Telecom Decision CRTC, Establishment of new deadlines for Canada's transition to next-generation 9-1-1", last modified June 4, 2021, https://crtc.gc.ca/eng/archive/2021/2021-199.htm

HLBFD has upgraded their mobile and portable radios to the digital platform using repeaters.

While the HLBFD operates as one department in most capacities, they operate on independent radio frequencies with interoperability with each other. There are currently two transmitter sites in Huntsville and two in the Lake of Bays. Each tower site has back up battery power, but if power is out long-term, generators may be used to ensure radio operations. A new tower site in the LOB is being constructed during this report's writing and not in service. Firefighters reported that radio communications in some locations of the LOB is very poor and look forward to the new radio transmission tower coming online.

There is no interoperability with municipal services such as public works within each municipality's radio system. There is no interoperability with any other emergency services such as the OPP and MPS.

Due to building construction such as in high rises and industrial buildings, large amount of steel is used, and this structural component inhibits radio transmissions. HLBFD should monitor the quality of radio transmissions when responding to these types of buildings and may need to obtain mobile repeaters to be installed in a few apparatuses, especially in Huntsville.

Radio terminology for fire services is, for the most part, standard across the province. There are reasons for certain words/phrases to be used so that everyone on the fireground understands the messaging which, in some cases, may prevent injuries or the death of a firefighter. It is important that officers and firefighters alike, of all ranks, be familiar with and use the proper radio terminology.

5.7 Vehicle Technology

The HLBFD has endeavored to advance the technology on the apparatus through the acquisition of tablets in 2021. While information available is limited, it should be enhanced with the assistance of both municipality's IT staff. The units should be data enabled and permit the responding crews to acquire information directly from the Communications Centre about the incident they are responding to including mapping, responding apparatus, pre-incident plans, hydrant locations, and access to the internet. Some data terminals can open the overhead doors of the fire stations rather than a small remote control that can become lost.

The tablets should have the capability to provide any pre-incident plans that are completed for a particular location. These plans will provide information such as a footprint of the structure, man and overhead doors, electrical panels, gas valves, hazardous materials storage area, sprinkler and fire hose connections, fire hose cabinets, etc. The Incident Command will use this information to direct their crews to specific areas of a structure to perform an assigned task and improve the situational data.

HLBFD needs to enhance their pre-incident plan program with the completion of additional plans and upgrade any currently in use. Resources should be allocated that enable the quality and quantity the plans developed to be consistent and current.

Focus should be on vulnerable occupancies, industry, main streets with commonly joint buildings, marines, assembly occupancies, campgrounds, fuel storage and retail such as propane and gasoline and any structures with known hazardous materials. It would aid in the completion of additional plans if an individual were to be the co-ordinator of the program and direct crews on which structures to complete. They would also be responsible for drawing the diagrams and uploading information into the computer system. All pre-incident plans should be completed in compliance with NFPA 1620, *Standard for Pre-Incident Planning*.

Presently, there is one tablet per station, that are located on each front run apparatus. In the future, the HLBFD could upgrade the tablets to a full Mobile Data Terminal function, which permit communications directly to the Communications Centre, among many more features.

Presently, many emergency service apparatuses are outfitted with Automatic Vehicle Locators (AVL). An AVL is a device that makes use of the Global Positioning System (GPS) to enable an agency, such as fire departments and paramedic services, to remotely track the location of its vehicle fleet using the Internet. Having the AVL system connected to the CAD in Communications aids in ensuring the closest staffed apparatus is dispatched to the emergency.

To aid fire apparatus in Huntsville to respond in a timely manner, pre-emptive traffic emitters have been installed on their apparatus. The emitters transmit a signal to a traffic light that a fire apparatus is proceeding to that intersection, and it will turn the light green so the trucks may proceed through the intersection without being impeded by a red light. None of the LOB apparatus have this technology, and consideration should be given to the need for the LOB apparatus having these units installed.

The apparatus themselves now include computer systems in their operation, including the fire pump. As with any computer system training, firefighters must understand and/or document error codes so the apparatus may be repaired and returned to service in a timely manner.

5.8 Health and Wellness

5.8.1 Health, Fitness, & Wellness

Health and wellness of staff is a key focus for all municipalities and Huntsville and the Lake of Bays are no exception. Due to the nature of volunteer firefighters maintaining a separate primary vocation, a focus on fitness can be overlooked. The inherit nature of firefighting is both stressful and physically

demanding. During the review by EM&T, it was noted that some of the fire stations have been equipped with workout facilities to ensure that staff can keep fit, which helps to reduce work related injuries. The fire department should work towards adding fitness equipment to those stations that have none.

Many fire departments routinely test their firefighters to meet occupational fitness tests delivered internally or by a third party. NFPA 1582 details basic expectations placed upon firefighters. HLBFD is encouraged to review these and incorporate them into both candidate testing and firefighter fitness and functionality. It is recommended that, as part of a larger commitment to firefighter health and wellness, HLBFD 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 that detail the physical and physiological strains placed on firefighters. The standard outlines the requirements for a department medical program including certain conditions that may pose a risk to firefighting. As the core determination for the physicality of firefighting, it is important for HLBFD to understand the expectations they are placing on their personnel. These job tasks are listed in the Standard as:

5.1 Essential Job Tasks and Descriptions

5.1.1 The fire department shall evaluate the following 14 essential job tasks against the types and levels of emergency services provided to the local community by the fire department, the types of structures and occupancies in the community, and the configuration of the fire department to determine which tasks apply to their department members and candidates:

1. While wearing personal protective ensembles and self-contained breathing apparatus (SCBA), performing firefighting tasks (e.g., hose line operations, extensive crawling, lifting, and carrying heavy objects, ventilating roofs or walls using power or hand tools, forcible entry), rescue operations, and other emergency response actions under stressful conditions, including working in extremely hot or cold environments for prolonged time periods.
2. Wearing an SCBA, which includes a demand valve-type positive-pressure facepiece or HEPA filter mask, which requires the ability to tolerate increased respiratory workloads.
3. Exposure to toxic fumes, irritants, particulates, biological (infectious) and nonbiological hazards, and heated gases, despite the use of personal protective ensembles and SCBA.
4. Depending on the local jurisdiction, climbing six or more flights of stairs while wearing a fire protective ensemble, including SCBA, weighing at least 50 lb (22.6 kg) or more carrying equipment/tools weighing an additional 20 to 40 lb (9 to 18 kg).

5. Wearing a fire protection ensemble, including SCBA, that is encapsulating and insulated, which will result in significant fluid loss that frequently progresses to clinical dehydration and can elevate core temperature to levels exceeding 102.2°F (39°C).
6. While wearing personal protective ensembles and SCBA, searching, finding, and rescue-dragging or carrying victims ranging from newborns to adults weighing over 200 lb (90 kg) to safety despite hazardous conditions and low visibility.
7. While wearing personal protective ensembles and SCBA, advancing water-filled hose lines up to 2 ½ in. (65 mm) in diameter from fire apparatus to occupancy [approximately 150 ft (50 m)], which can involve negotiating multiple flights of stairs, ladders, and other obstacles.
8. While wearing personal protective ensembles and SCBA, climbing ladders, operating from heights, walking, or crawling in the dark along narrow and uneven surfaces that might be wet or icy, and operating in proximity to electrical power lines or other hazards.
9. Unpredictable emergency requirements for prolonged periods of extreme physical exertion without benefit of warm-up, scheduled rest periods, meals, access to medication(s), or hydration.
10. Operating fire apparatus or other vehicles in an emergency mode with emergency lights and sirens.
11. Critical, time-sensitive, complex problem solving during physical exertion in stressful, hazardous environments, including hot, dark, tightly enclosed spaces, that is further aggravated by fatigue, flashing lights, sirens, and other distractions.
12. Ability to communicate (give and comprehend verbal orders) while wearing personal protective ensembles and SCBA under conditions of high background noise, poor visibility, and drenching from hose lines and/or fixed protection systems (sprinklers).
13. Functioning as an integral component of a team, where sudden incapacitation of a member can result in mission failure or in risk of injury or death to civilians or other team members.
14. Working in shifts, including during nighttime, that can extend beyond 12 hours.

The 14 essential job tasks explained in NFPA 1582 lay the groundwork for NFPA 1583 *Standard on Health-Related Fitness Programs for Fire Department Members.* NFPA states that "this standard outlines a complete health-related fitness program (HRFP) for members of fire department involved in emergency operations to enhance their ability to perform occupational activities and reduce the

risk of injury, disease, and premature death". The applicable portion of the standard comes from section 4.1 wherein it states:

4.1 Program Overview

4.1.1 The fire department shall establish and provide a health-related fitness program (HRFP) that enables members to develop and maintain a level of health and fitness to safely perform their assigned functions.

The occupational health and safety program provides direction on performing assigned functions in a safe manner. The health-related fitness program allows members to enhance and maintain their optimum level of health and fitness throughout their tenure with the fire department. Education, one provision of a health-related fitness program, allows a means for improving health and fitness throughout the organization. The organization needs to provide the recognition and support to ensure the promotion and success of this process. Health and fitness need to become a priority within the organization just as safety is.

Data suggests a correlation between the following:

(1) A proactive approach to health and fitness and a decrease in debilitating occupational injuries.

(2) A reduction in workers compensation claims and a decrease in acute and chronic health problems of fire fighters.

Combining the health-related fitness program with a proactive occupational safety and health program provides a fire department with the level of quality needed for its members.

It is suggested that, as part of a larger commitment to firefighter health and wellness, HLBFD review the 14 essential job tasks from NFPA 1582 as they pertain to their recruitment and testing process and seek options for offering personnel the ability to exercise and maintain fitness levels as explained in NFPA 1583. HLBFD will need to consider the ramifications of mandatory testing and if, during the development and transition of health and wellness programs, the supportive aspects of offering and providing of exercise and wellness equipment and programming is suffice.

5.8.2 Cancer Prevention

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 duration, to cleaning and decontamination post-fire, all aspects of prevention are currently under review by all levels of fire service management. Departments are limiting opportunities for cross contamination and secondary exposure of carcinogens involved in fire scenes.

It is suggested that, as part of a larger commitment to firefighter health and wellness, HLBFD should review related Section 21 Guidance notes, and include items such as, but not limited to:

- Post-fire decontamination of PPE
- Firefighter hygiene at fire scenes
- PPE during handling of contaminated gear/ equipment
- Documenting potential exposures
- Reducing exposures to diesel exhaust

The stations are not equipped with diesel exhaust systems to reduce exposure to vehicle exhaust. Diesel exhaust has been contributed to health issues when people are exposed to it over long duration. By having these systems in each station, the health concern is greatly reduced. 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.

In reviewing the personal protective equipment (PPE), also known as structural firefighting ensemble, it was noted that some of the gear is nearing ten years of age. A plan has been established to review PPE inventories and forecasted replacements are identified so that budgetary submissions are effectively managed. This is important to note as NFPA 1851 Standard on *Selection, Care and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting* states in Chapter 10:

> **10.1.2** Structural fire fighting ensembles and ensemble elements shall be retired in accordance with 10.2.1 or 10.2.2, no more than 10 years from the date the ensembles or ensemble elements were manufactured.

The appendix to that section also references that "…it is imperative that the protective elements be routinely inspected to ensure that they are clean, well maintained, and still safe". HLBFD has a program that PPE is inspected and cleaned in-house, and that there is a cache of used gear that can accommodate a portion of the Department. HLBFD is also reviewing options on the issuance of a second set of gear to firefighter in the coming years.

The Occupational Health & Safety (OH&S), Section 21 Health & Safety Guidance Note 6-1, Hygiene and Decontamination[30], states:

> *Employers should:*
>
> - *develop a program of decontamination, which includes engineering controls (ventilation), decontamination procedures, personal protective equipment (respiratory protection devices, gloves) and hygiene practices, in consultation with the joint health and safety committee.*

Cancer prevention can even begin at the scene of a structure fire. The bunker gear becomes laden with contaminants and smoke, and off gas for some time after a fire. By decontaminating the firefighters at the scene of the fire so they are not wearing their dirty gear back to the station or transporting it in the cab of the truck, is a step in the right direction of cancer prevention. To continue in this endeavour the department should invest in some on-scene decontamination equipment and bags for transporting the bunker gear back to the station.

It is recommended that HLBFD invest in decontamination equipment and develop the appropriate Policies and SOGs in performing decontamination of firefighters at the scene of a fire.

Guidance Note 6-1 also states that soiled equipment should not be:

- Transported inside the cabs of fire department vehicles
- Transported inside personal vehicles
- Taken into living quarters of a fire station (this should include any areas of the fire station other than the apparatus bays)
- Taken into the firefighter's home

Cancer prevention does not stop at just taking off and bagging the bunker gear for cleaning at the fire station; the individuals clothing may also contain cancerous contaminants. The hygiene and decontamination program should also address the firefighters personal clothing or uniform worn in the fire. This may necessitate the firefighters having spare clothing at the fire station or in their personal vehicle, available for them to change into after they have a shower at the station. This clothing should also be washed at the fire station and not taken to the residence to be washed as they are then introducing the contaminants to members of their family.

[30] Ontario, "6-1 Hygiene and decontamination – Actions for employers", last modified October 21, 2019, https://www.ontario.ca/document/firefighter-guidance-notes/6-1-hygiene-and-decontamination

A fire department exposure report should be completed each time a firefighter is exposed to the products of combustion.

It is recommended that HLBFD develop a formal health and wellness program that includes all facets of health and wellness that have been discussed within this section.

5.8.3 Sense of Well Being

Huntsville has included all its fire department staff in the Employee Assistance Program (EAP) offered through its municipal employee benefits. The Lake of Bays has Health Spending Benefits for its members based on the individual's attendance records; Huntsville does not offer this. Both municipalities have their firefighters enrolled with the Volunteer Firemen's Insurance Services (VFIS) for life insurance.

This is an important piece of employee wellness. HLBFD should meet with administrative staff from the municipalities who oversee it to ensure that firefighting personnel are fully aware of what benefits the EAP offers, should they need it.

In 2017, emergency services organizations were required by the Ministry of Labour to submit a Post Traumatic Stress Disorder (PTSD) Prevention Plan. This was to coincide with PTSD and Occupational Stress Injuries (OSI) to be considered as workplace injuries and compensable through the Workplace Safety & Insurance Board (WSIB). The HLBFD has an in-depth package available to its members outlining what PTSD is, the dangers it presents, training, on-going support, early intervention, WSIB claims management, recovery, and return to work. The department also has a peer support group in place.

Initial awareness training for existing staff and recruits is essential in establishing minimum levels of resiliency. Through their PTSD Prevention Plans, departments are expected to outline a full spectrum plan. They are encouraged to address four pillars of managing a PTSD/ OSI event: prevention, peer support, treatment/recovery, and return to work programs.

It should be noted that not all EAP services include availability of trained, accredited mental health professionals (psychologists/ psychiatrists), and some only offer limited assistance through counselling and therapy.

Like law enforcement, paramedics, EMTs, and military personnel, firefighters are regularly exposed to critical incidents. A critical incident can be described as:

- A near miss that threatened the health and safety of a member of the Department. This can include a situation where a member of the HLBFD experienced an event that could have resulted in significant harm or was a close call where they escaped significant harm.

- The suicide or attempted suicide of a co-worker.
- The sudden death of a fellow firefighter.
- The loss of a patient after a rescue attempt.
- The death or a critical incident involving a child.
- A prolonged rescue or incident with excessive media coverage.

Being regularly exposed to horrific events can lead to critical incident stress. A critical incident can best be described as a normal reaction to an abnormal traumatic incident. Exposures to critical incidents can impact firefighters later in life and it is essential to have a formal record of critical incidents to assist a firefighter for a workplace injury if they are struggling due to PTSD.

Mental health takes on paramount importance in high-stress, high-risk work settings, such as those in which first responders operate, where their own functioning has serious implications for the health, safety, and security of the public they serve.

Municipalities generally have employee assistance programs, but these tend to have gaps when dealing with long-term mental health injuries because of continued exposure to extraordinary (and horrific) events in a firefighter's career. Being proactive in recognizing the reality of this issue and committing resources to educate members and provide mental health services prior to a member suffering from PTSD is the best recourse. It is common that all fire department members and their families are enrolled in the municipal Employee Assistance Program.

Firefighters are the greatest asset of any fire service, and it is imperative that their mental well being is addressed in a genuine, consistent, and professional manner.

The HLBFD PTSD Prevention Plan includes:

- An introduction about the plan
- Prevention and education
- Screening and initial intervention
- Intervention focus
- Support, WSIB claims management, recovery and return to work
- An overview of PTSD, risk factors, signs, and symptoms
- Legal requirements of the municipality under the *OH&S Act* of Ontario.
- Organizational PTSD practices (promoting good mental health)
- Organizational anti-stigma practices
- Roles and responsibilities for prevention, intervention, recovery, and return to work

- Training on awareness and anti-stigma, recognising the signs and symptoms and responding to signs of PTSD, postexposure education and awareness

To the credit of HLBFD they have two fire department Chaplains to call upon for support in the event either mental well-being and/or family related issues arise with the members of the Department. There is also a well-established peer support team in place that includes representation from all departments.

5.9 Recruitment and Retention

Recruitment and retention of volunteer firefighters is becoming more of a challenge within the fire service. These challenges for the volunteers are based on factors such as cost of living within a community, career, and family demands. With the new training certifications requirements to be introduced by the OFMEM, this will most likely equate to an increase in training commitment, which may have a negative impact on volunteer retention.

There is also the challenge relating to responses during the daytime hours, from Monday to Friday, since many volunteer firefighters are either at work, school, or have family responsibilities. In some instances, members have had to leave the department to move closer to their work location, education facilities, or family. To address these challenges, some volunteer departments have added full-time firefighters during the daytime hours, Monday to Friday, to compensate for a reduced volunteer availability.

In a nationwide survey, the leading reasons why people stop volunteering include the following:

- No time to volunteer
- Conflicts within the organization
- Organizational leadership created an adverse atmosphere
- Too much training
- Attitude of existing personnel towards newcomers
- Criticism received from senior members
- Lack of camaraderie

While some issues may be outside of the department's control, other issues can be mitigated such as conflicts within the organization, leadership, training, attitudes, criticism, and camaraderie.

Various reasons why some fire services have limited responses to their recruitments may include:

- The lack of marketing the fire service as being volunteer based as some newcomers may not be aware it is.

- A weakening sense of community among the population in part because the fire department may not adequately reflect the diversity of the community and the people it serves.
- The ratio of men versus women in the fire service giving the misconception that a department is looking for firemen vs firefighters.
- The lack of the fire department to fully connect with the community by promoting the activities and services provided by the fire department.
- There may be a negative image of the department presented to some residents living within the community, due to past incidents involving members of the department or the actions of the department.
- Some new residents that have moved from the GTA and may not be aware that the department has volunteer firefighters.

Note: *the previously listed items are not a direct reflection on the status of the HLBFD, they have only been listed for consideration in the department's recruitment and retention initiatives.*

Although the HLBFD is being as proactive in its recruitment efforts, the following suggestions may be required to recruit new members if little interest is being generated. This may include:

- Placing ads in local media such as newspapers, rate-payers association newsletters, and websites, along with working with local radio stations to provide public service announcements about the recruitment.
- Posting notices on social media such as Facebook, Twitter, Instagram, and the town's website. Increasing the fire department profile by posting pictures of the firefighters in action and statistics on social media outlets.
- Posting signage on the front lawns of municipal buildings may yield interest.
- Develop a recruitment video and use local students to help develop the film as part of their required community service time.
- Start to recruit new members when they are young by starting a Junior Fire Fighter Club. This has been very successful in the United States and is beginning to grow in Canada.
- The local youth centre would be a great asset in seeing this to fruition.
- Make sure those who join feel that they are important and welcomed to the department and are valued members of the fire service family.
- During the joint recruitment, promote and conduct an information night at a couple of the stations.
- Encourage attendees to bring the entire family and have activities for children to promote that the fire service is a family unit.

Members of the department could provide tours of the station and apparatus during the recruitment information sessions and have face to face conversations on the life of being a volunteer. These

discussions can outline the expectations of department members such as the number of fire calls and training sessions they must attend, any honorarium that is paid, and satisfaction and friendships gained through true teamwork.

Diversity can only thrive in a welcoming, inclusive environment. Establishing a recruitment committee comprising of both male and female firefighters and visible minorities is another step to promoting inclusion.

The issue of retention has been identified as a challenge with just about every volunteer fire service. There are numerous reasons for leaving including the firefighters not feeling appreciated by the municipality, the time and effort required for both training and response, and firefighter's family not being recognised for "lending" their family member to the community.

To address these issues, further opportunities to increase retention may include:

- Family nights at the fire station that would include a movie with activities for the children.
- Assign a seasoned member to mentor each rookie when a new member joins the department.
- Conduct firefighter appreciation events (e.g., dinner, BBQ) where members are recognised by council for their long-term, outstanding service or exceptional service performed.
- council to take time and acknowledge the employers of the volunteer firefighters 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 might include paying extra in the form of a 5 to 10% pay increase for every five years they have been on the department; this would help to prevent the loss of years of experience.
- Performance-pay for those who reach a high percentage of attendance at training sessions and fire calls.
- Offer benefit packages as many may not have benefits at their place of employment, and some are self employed. Such packages would include basic dental, drug, and eyewear coverage.
- Purchase a wellness benefit package for the firefighters such as mental, financial, and family counseling, as Midland has.
- Engage in treating Post-Traumatic Stress Disorder (PTSD), which is a common illness among fire responders.
- Offer a RRSP/pension savings plan with contributions from the town after they have been a member of the department for a predetermined length of time.

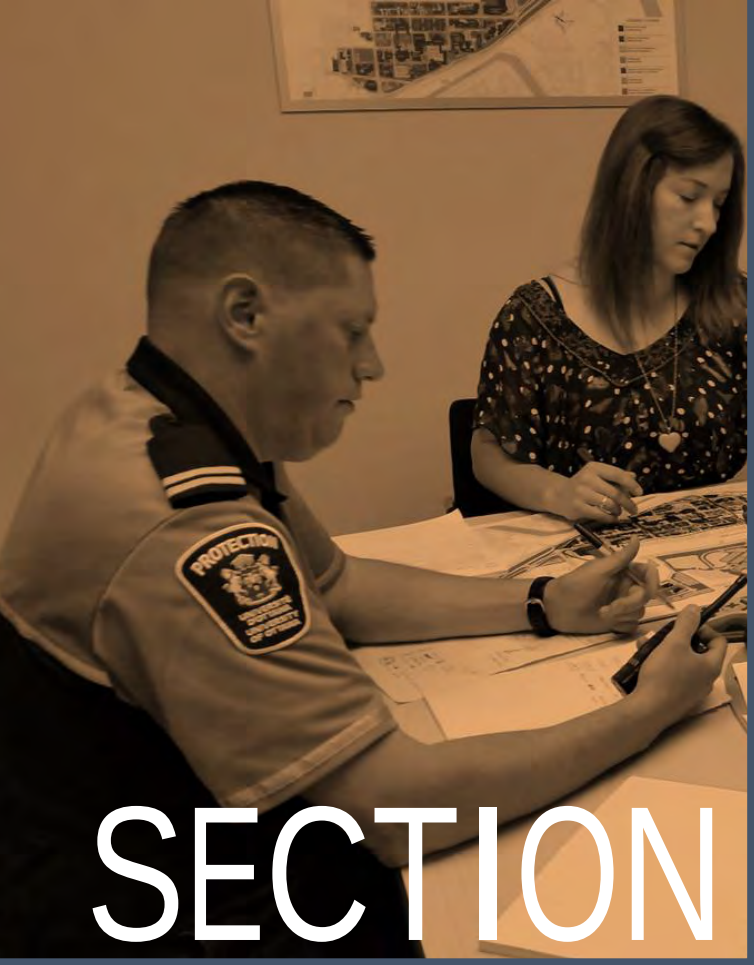
- Provide excellent training opportunities to make them want to remain a member of the fire department.
- Recognition and support of those who want to attend regional courses, which sometimes requires firefighters using their vacation time from their full-time employers.
- The implementation of an “on call or platoon” program that would pay a week or weekend allowance to the volunteer firefighters who commit to being available by signing up for weekdays and/or weekends.
- Education assistance programs to support staff in their professional development.
- Maintain and improve morale by providing modern trucks, equipment, and stations.
- Endorse that each station designs their own logo for their station promoting their region of the municipality or the services they provide. This could include a tasteful mascot character. These could be placed on t-shirts and perhaps the apparatus as a sense of pride.
- Provide strong leadership that focusses on the Mission, Vision, and Values of the department, resolving conflict resolution in a timely manner.
- Conduct exit interviews with those that leave the department to understand their reasons for leaving.
- If new stations are built in the future, add a fitness room for the firefighters to exercise.
- Foster the history of each fire station by creating displays of pictures of past members, events, and apparatus to instill a sense of pride on how far the department has grown.
- Providing a reduction or refund on property taxes to those firefighters that own a home as a form of appreciation.

Some of the suggestions may imply an expense to the town. However, the value of keeping trained personnel longer, saves on the training of new firefighters. It costs the town considerable money to train and equip new firefighters; it is important that a means to retain their investment is developed and supported by council.

The Canadian Association of Fire Chiefs (CAFC) have also published a program – “Answer the Call” that is available on their website www.answerthecall.ca. It uses messaging and imagery to reflect the local challenges. Free of charges, there is a set of images that can be used as well as documentation that can be personalized to the organization. The “canned” images can, and do, reflect V/POCs across all demographics, and the local community could add additional ones specific to their department. It has received significant support and it does not require considerable time or monetary investment.

Recommendation(s)

Rec #	Responsibility	Recommendation	Suggested Timeline
13	HLBFD	Train members of HLBFD to the awareness level for all technical rescues and HAZMAT responses.	Short-term (1 – 3 years)
14	HLBFD	HLBFD fire dispatch agreements with Barrie Fire & Emergency Services include references to NFPA 1021 and 1061.	Short-term (1 – 3 years)
15	HLBFD	HLBFD to build upon its present pre-planning program to ensure they have up to date information on any high-risk facilities within the communities.	Short-term (1 – 3 years) and Ongoing
16	HLBFD	Invest in decontamination equipment (i.e., extractors/clean room) and develop the appropriate policies and SOGs in performing decontamination of firefighters at the scene of a fire.	Immediate (0 – 1 years)
17	HLBFD	Develop a formal health and wellness program that includes all facets of health and wellness (relating to physical fitness and mental wellbeing).	Immediate (0 – 1 years)



SECTION 6

Facilities, Vehicles, Equipment, & Water Supply

6.1 Fire Stations Review

6.2 Type of Buildings & Options

6.3 Fire Facilities Summary

6.4 Fire Apparatus – New & Replacement Schedules

6.5 Equipment Maintenance

6.6 Generators

6.7 New Technologies

6.8 Hydrants

6.9 Superior Tanker Shuttle Accreditation

SECTION 6: FACILITIES, VEHICLES, EQUIPMENT, AND WATER SUPPLY

This section will assess facility needs and station locations. It will review existing facilities and provide recommendations for future locations relative to current and future service delivery demands and applicable standards. Consideration of potential needs for relocation or additional stations will be made.

6.1 Fire Stations Review

Fire stations should be positioned to offer the most efficient and effective response to the community they serve. Centering them within a determined response zone that is simply based on "timed" responses is not always the best option to implement. Fire station locations depend on many factors such as key risks within the response zone, future growth of the community and station staffing (full-time or volunteer firefighters). Another consideration is the geographical layout of the community that can include natural barriers or divides such as water that may make it necessary to have some stations located within proximity of each other.

Fire stations should be situated to achieve the most effective and safe emergency responses. Distance and travel time may be a primary consideration; however, if a basic expectation of response time is set by the community's decision makers, then a more realistic level of service and fire station location criteria can be identified.

Current industry standards for the design and construction of a fire station have identified the need for enhancements, amenities, and features a volunteer fire service would require. The following is a partial list of what is required when building a fire station for a volunteer fire department:

- Post disaster engineered structure
- Emergency back-up power supply
- Gender neutral washrooms, locker rooms, showers, and dormitory (for when full-time staff are hired)
- Barrier free
- Positive pressure bunker gear storeroom
- Vehicle exhaust extraction system
- Water runoff separation tanks in the apparatus floor
- Emergency eye wash and decontaminations 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, self contained breathing apparatus (SCBA), medical equipment, etc.
- Bunker gear extraction machine and dryer
- Domestic washing machine and clothes dryer
- Training/meeting room
- Emergency shut-off to cooking equipment
- Given that the station would be a 40–50-year investment, consideration of a new station must include amenities that may be required for full-time staffing in the future.
- Red/green lights at the overhead doors to notify the drivers when the overhead door is fully open, and it is safe to leave the station.

During a review of the HLBFD existing facilities it was identified that many of these features are lacking, some of which are environmental or health and safety issues. Some of the fire stations do not have separation tanks for oils, chemicals or sand connected to the water drains in the apparatus floor. This permits harmful contaminants to enter the municipality's drainage system, or general run off, without first being separated. A hazardous waste permit must be obtained from the Ministry of Environment by the company transporting the waste to have the system cleaned out.

As with many fire services, cooking facilities at the fire station are used prior to a meeting or during a special fund-raising 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 terminated until the crew returns from the call and deactivates the valve/ switch.

There have been incidents where a fire station caught fire due to cooking appliances being left on when the crew leaves for a call. The installation of a power shut off switch would de-energize any electrical outlets on the kitchen back-splash, removing power from not only the oven, but appliances such as toasters, kettles, and microwaves as well. HLBFD should review opportunities to have these safety devices installed at Station 1. Some fire services have a natural gas BBQ; this should also be incorporated into the emergency shut off.

During visits to the fire stations, it was found that none of them have a dedicated bunker gear storeroom that would also have the proper negative pressure ventilation system. This system will

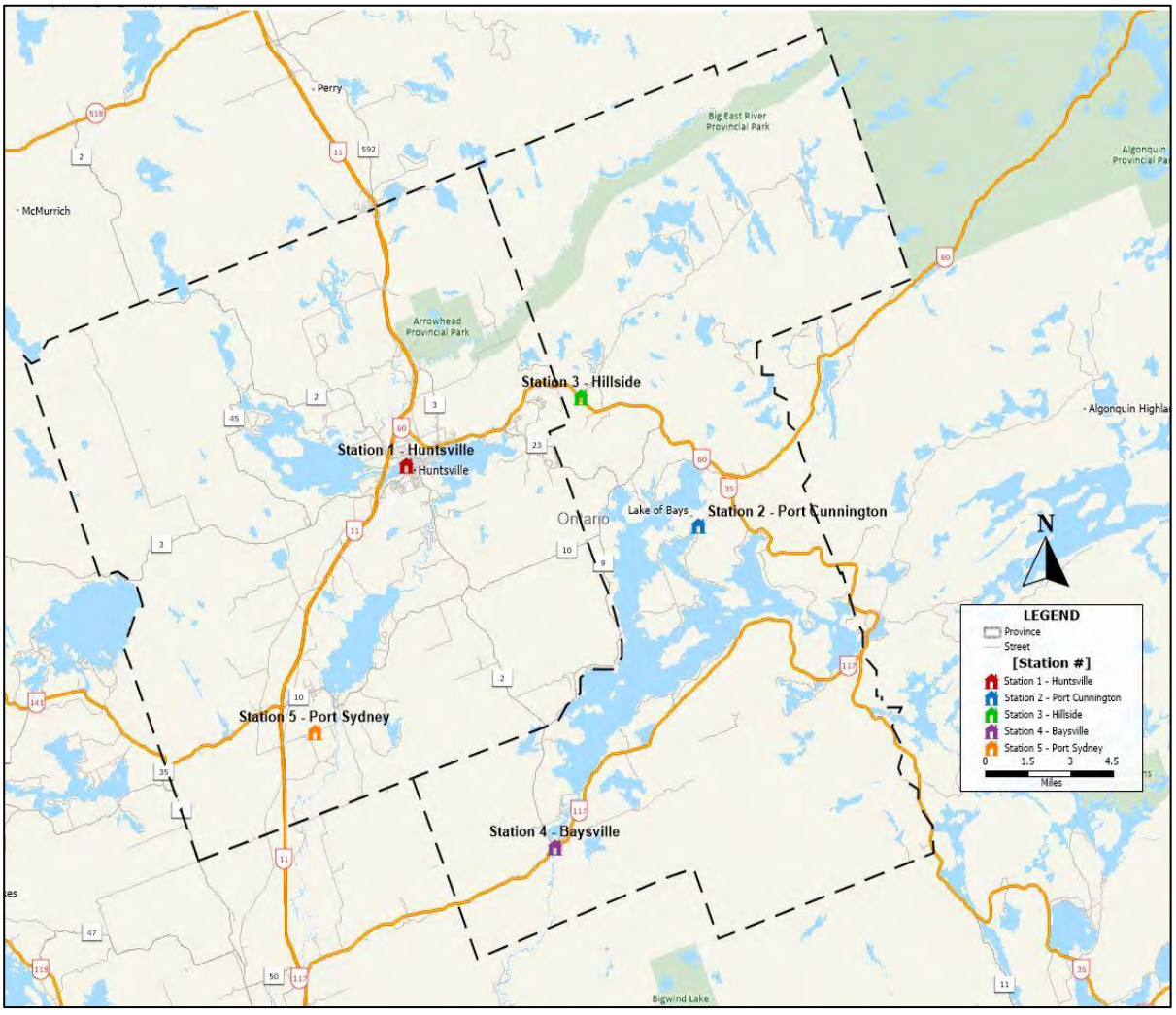
draw out any off gassing of chemicals that could be present in the building and prevent them from entering the general quarters.

As it was not a requirement when some of the stations were built, they did not have post disaster features installed at the time of construction. The addition of such features would be cost prohibitive as they are normally part of the original design and not completed after structure completion.

The Huntsville-Lake of Bays fire stations are located at:

Station 1 – 1 Payne Drive in Huntsville
Station 2 – 1230 Fox Point Road (Muskoka Road 21) in Port Cunnington
Station 3 – 1007 Limberlost Road (Muskoka Road 8) in Hillside
Station 4 – 12 University Street in Baysville
Station 5 – 346 Muskoka Road 10 in Port Sydney

FIGURE #20: HLBFD Station Locations



6.1.1 Station 1

Station 1 located at 1 Payne Drive in Huntsville within the downtown area. The street in which the apparatus must exit onto, Centre Street North, is very busy most times of the day especially when the two schools that are close by have buses coming and going. There have been many instances of the fire trucks entering onto Centre Street being impeded by traffic.

When the apparatus is pulling onto Centre Street the sight lines in both directions are very poor and when the aerial is responding, the platform of the apparatus is extended onto the roadway to allow the driver to see in both directions, creating a possible hazard to both the firefighters and oncoming traffic.

The station was commissioned in 1995 and while it was a modern facility at the time, it is showing signs of deterioration and possible upgrades and/or repairs may be required in the near future. It was brought to EM&T's attention that the building is sinking in one corner and damaging the concrete blocks. It lacks post disaster construction and adequate storage. There are shelves located in the apparatus bays that are used to store equipment as the building does not have any storerooms for that purpose. Even the hose tower is used to store equipment.

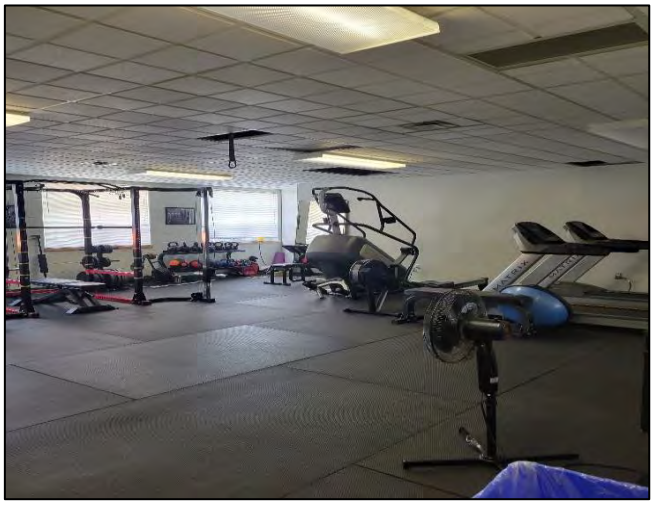
A safety concern is the shelves in the apparatus bays due to the distance they extend from the walls and the amount equipment placed on them. If an apparatus were to strike one of the units, the items could fall to the floor, possibly injuring individuals and damaging the apparatus. As an interim measure, the department should acquire a couple of sea containers to store excess equipment and remove the shelving units from the apparatus bays.

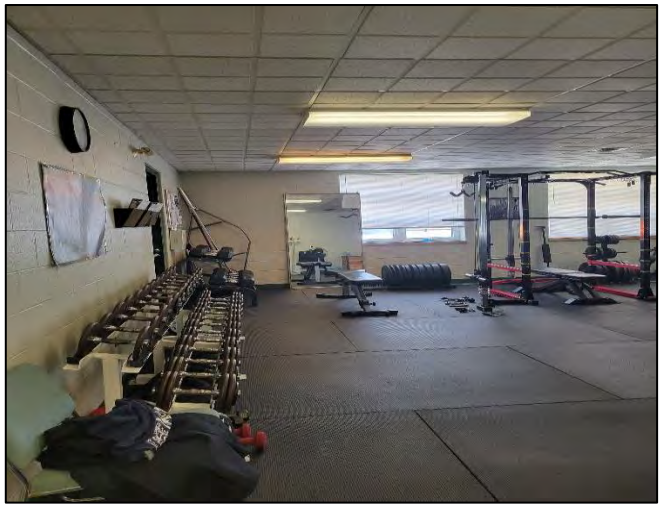
Even with the concerns noted, it should be mentioned that during EM&T's tour of the stations, it was found that every station was very neat, tidy, and clean and pride in the stations and the apparatus was evident.

Station 1 – Huntsville

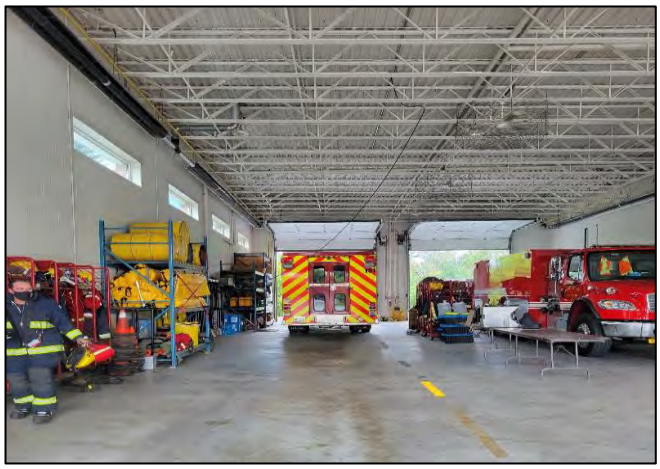
Front entrance

fire chief's Office

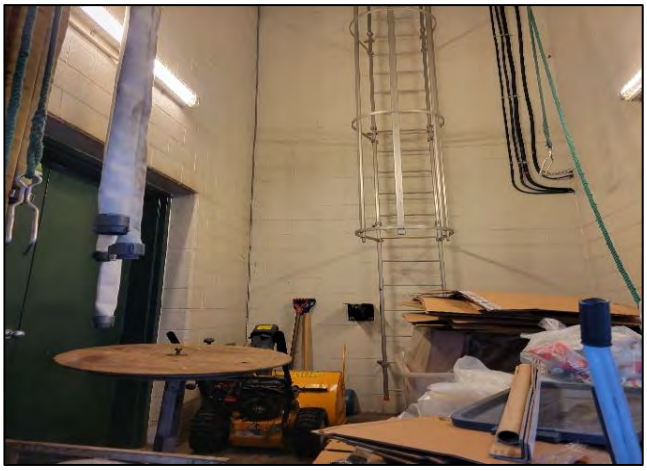




Fitness room



Apparatus floor – note shelving along the wall



Hose Tower – note used for storage

Crack in wall due to building settling

Kitchen facilities

Training room

An issue identified with the Station 1 location is times when fire apparatuses have been blocked by tractor-trailers from INFRA Pipe Solutions which is beside the fire station. The fire chief, along with town staff, should review parking designations for Payne Drive to ensure congestion does not interfere with emergency response.

The fire chief supplied EM&T with the following photos to illustrate the issues:

Truck blocking the driveway – driver left his truck parked here to go to the shipping office.

Driver drove across lawn and struck a tree.

Truck when loaded was left for a period of time blocking fire apparatus bays.

Truck was left unattended.

There appears to be a need for increased signage to identify the road as being required for emergency access. By-law officers should be encouraged to patrol the area on a regular basis.

6.1.2 Station 2

Station 2 is located at 1230 Fox Point Road in Port Cunnington. This station was built in 1995 and while it is clean and well maintained, it does not meet the needs of the department going forward with larger and longer vehicles.

This station has no standby generator. Firefighters have placed fitness equipment on the apparatus bays and the meeting/ training room is small. It lacks separation tanks for the runoff while washing the apparatus to trap oils, etc.

A health and safety issue has come to the attention of EM&T. It is reported that mold has formed on the wall behind the water purification system. The Township should contact a company to conduct tests and have the mold remediated.

Both stations 2 and 3 provide water refill stations for seasonal residents to fill containers to take to their residence. While this is an amiable gesture, there is a health and safety concern regarding the location of the water pipe in proximity to the electrical panel. The department should contact the Electrical Safety Authority of Ontario to obtain guidance on whether this is indeed a safety concern and how it may be remediated.

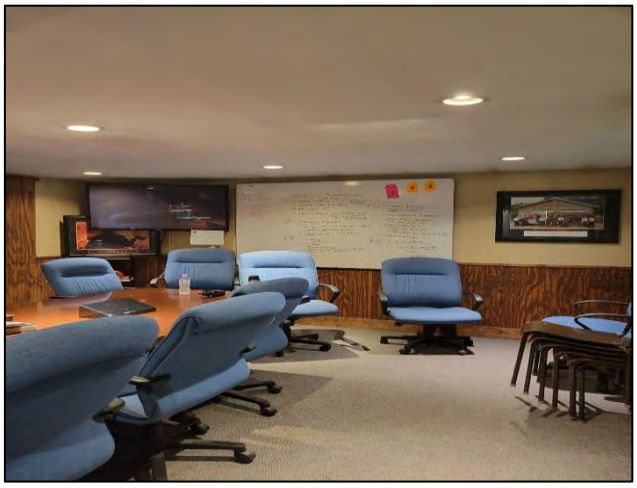
Station 2 – Port Cunnington

Exterior Water Refill Station

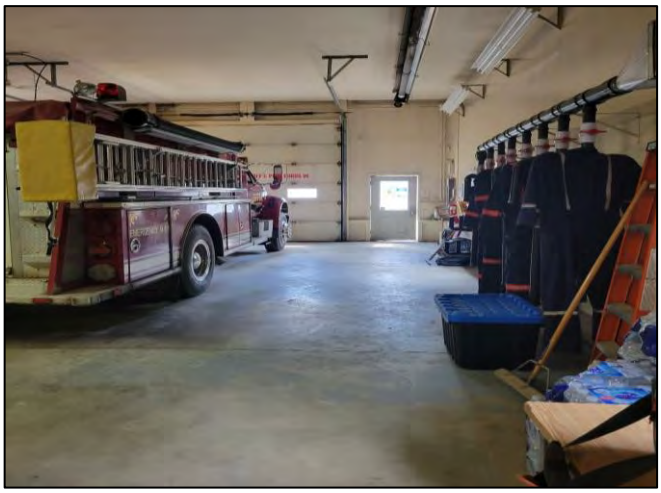
Proximity of water pipe to the electrical panel

Drying rack on the apparatus bay

Mechanical repair area



Training/ meeting room



Apparatus Bay

Fire boat assigned to Station 2

6.1.3 Station 3

Station 3, located at 1007 Limberlost Road in Hillside, was bult in 1993 and has similar design and functionality challenges to Station 2. The apparatus bays are not long enough to store modern fire apparatus with four doors and carry a larger capacity of water. There are no separation tanks for the water runoff to be separated from the oils and contaminants.

The meeting/training room is on the second floor with a small kitchen. This station has many of same amenities as mentioned in Station 2's section. A community water filling station is also available for potable water to be obtained by the seasonal residents. It too has a water pipe running directly below the electrical panel in which the Township should be in contact with the Electrical Safety Authority to obtain a ruling on its compliance in the manner it has been installed.

The station does not have many of the amenities a modern volunteer station would have including gender neutral washrooms, barrier free, negative pressure bunker gear storeroom, automatic stand-by generator, locker room, and fitness room.

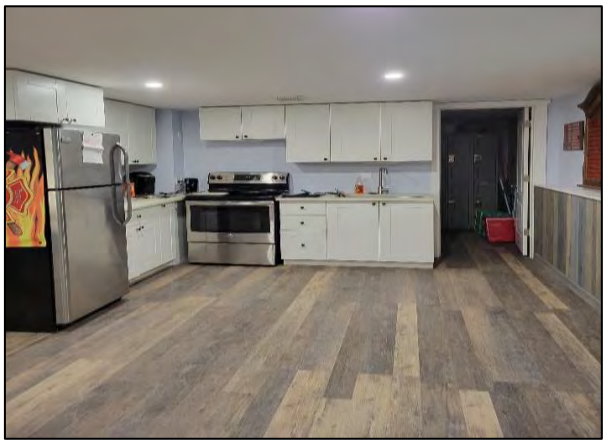
Station 3 – Hillside

Community water re-filling station

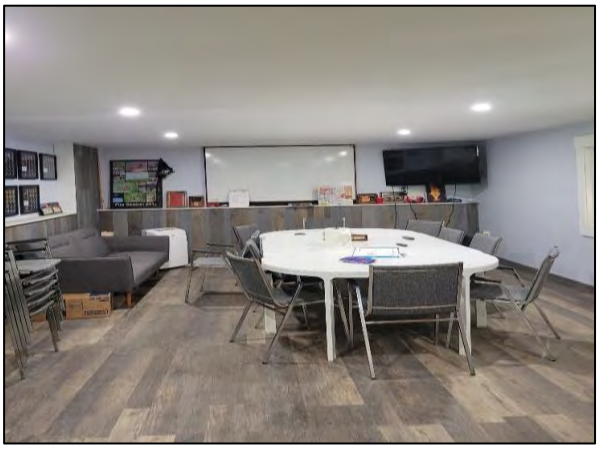
Apparatus Bays

Boat stored on the apparatus floor

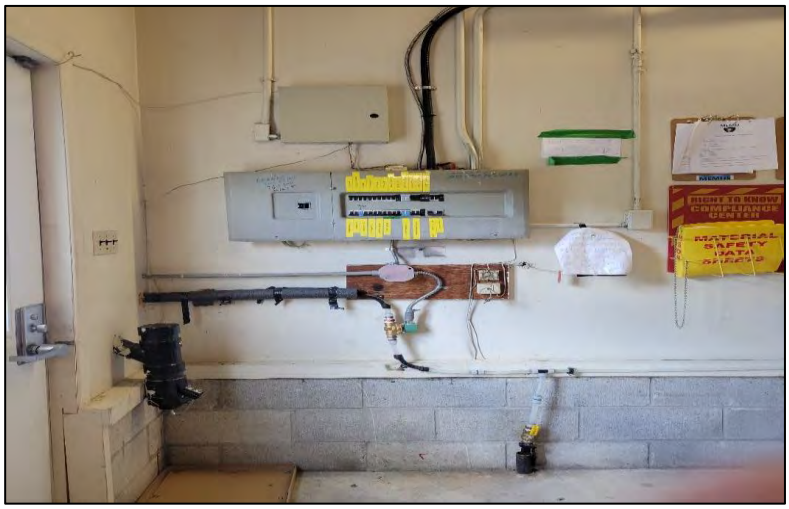
Cascade system, extractor machine, repair area



Kitchen area on the upper floor



Meeting/ training room



Water lines running just below the electrical panel.

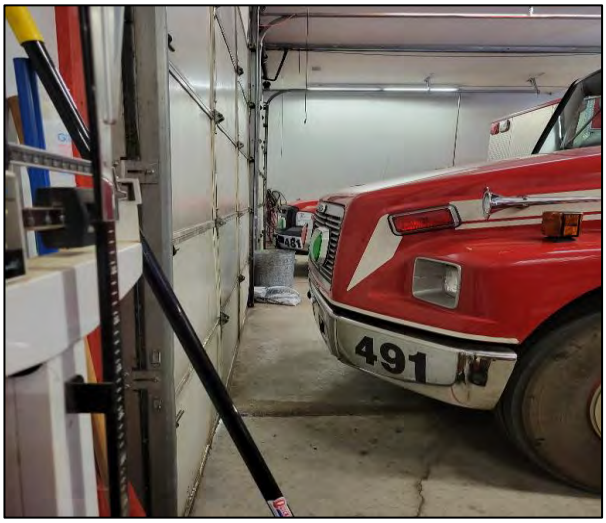
6.1.4 Station 4

Built in 1991, Station 4 is at 12 University Street in Baysville. It has three single length apparatus bays. The station is small and lacks adequate storage for additional equipment. There are three apparatuses assigned to the station - a pumper, a tanker, and a rescue. This station is the only one in Lake of Bays that also has a tanker. Due to the length of the new apparatus, vehicles must be parked close to the overhead doors to allow movement behind the trucks, and still allow for storage of an ATV on a trailer. There was at one time a small boat assigned to the station, but it has been taken out of service due to necessary repairs.

The station does not have an automatic stand-by generator, locker facilities, barrier free, separation tanks for water runoff, or other amenities found in modern fire stations. An issue that has created a challenge for several years is the lack of parking for the firefighter's vehicles, who are coming to the station to respond. During the winter when a hockey game or a tournament is taking place, there are

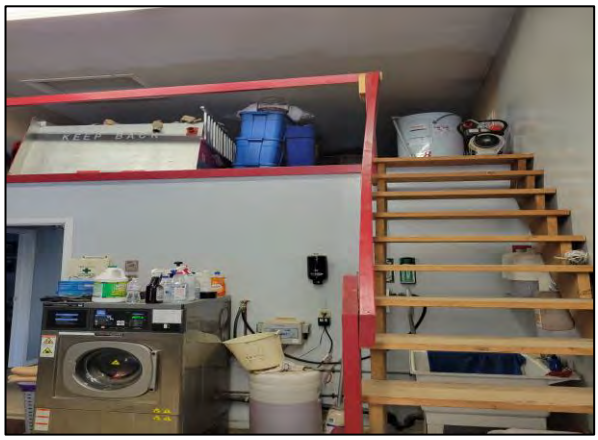
vehicles parked beside the fire station (at the recreation centre) inhibiting parking access. There is a lack of storage in the facility.

Station 4 – Lake of Bays



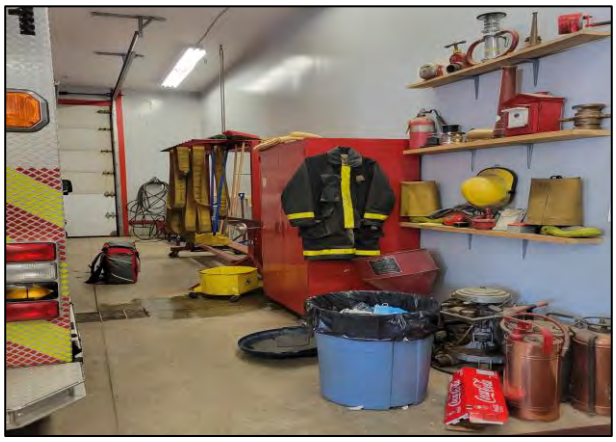
Apparatus must be parked close to the overhead doors due to space limitations.

Storage of items in a loft



Access to the loft

Training/ meeting room



Apparatus Bay area

Apparatus Bay

6.1.5 Station 5

This station is the newest of the HLBFD having been funded in part for the HLBFD's participation during the G-8 Summit in 2012. The station was very well planned and laid out but could use

additional storage space as many items are being stored on the apparatus floor. There are solar panels on the roof to produce power which is a revenue generating opportunity for the municipality.

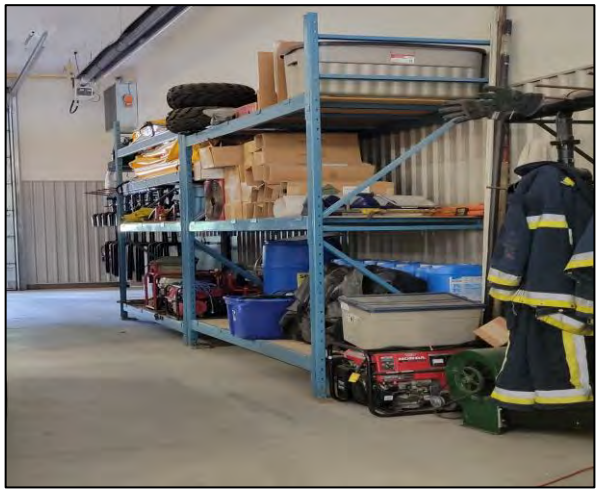
A cistern is also onsite for the firefighters to fill the trucks with water, and it is refilled from a well that has been installed onsite. Within the station is an office that has been dedicated to the Simcoe Muskoka District Health Unit. This is a great example of partnerships that could be achieved with other outside agencies.

At the rear of the station is a large training compound. At the time of EM&T's review, HLBFD has received approvals from the OFMEM to operate this training centre and several local fire services are taking advantage of the facility. However, at the time of the council presentation it was noted that the RTC agreement with the OFMEM has been put into abeyance until a full review is completed.

Station 5 – Port Sydney

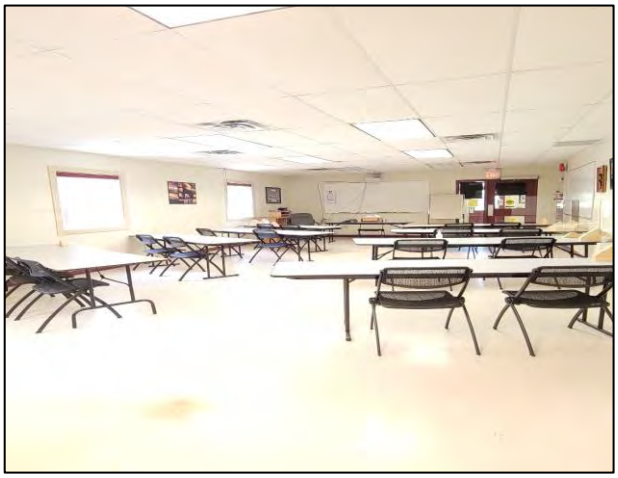
Rear of Fire Station, note solar panels on the roof

Cistern on Site



Equipment stored in the apparatus bays

Apparatus Bays



Training/ Meeting Room

6.3 Fire Facilities Summary

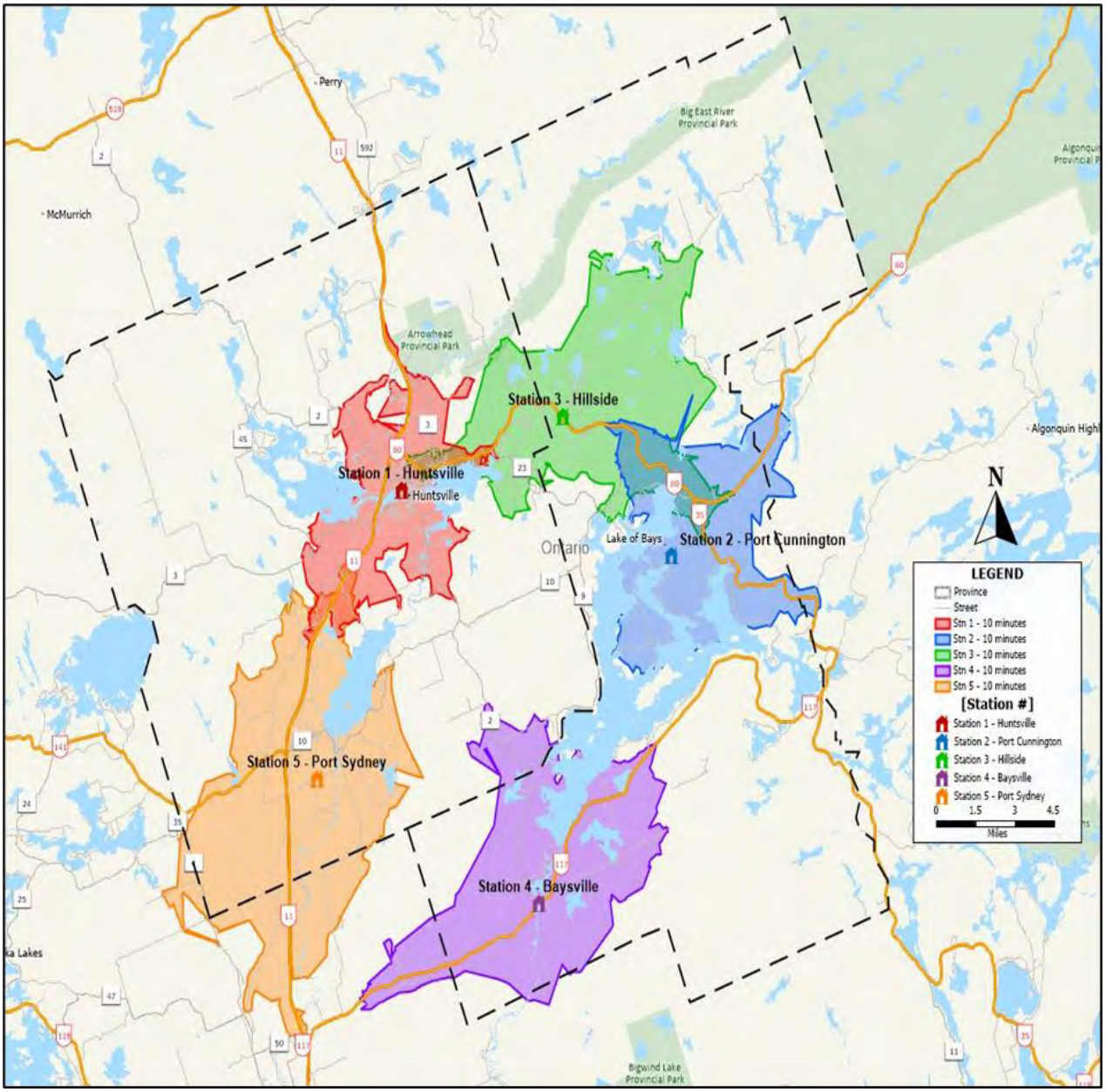
After reviewing the condition and location of the stations, EM&T would like to make the following recommendations. While the crews have done an amiable job in keeping the buildings clean and somewhat organized, many stations require replacement and, in some cases, relocation to provide optimum response capabilities. Relocating a station can reflect positively in response times thereby providing an enhanced level of service to the community.

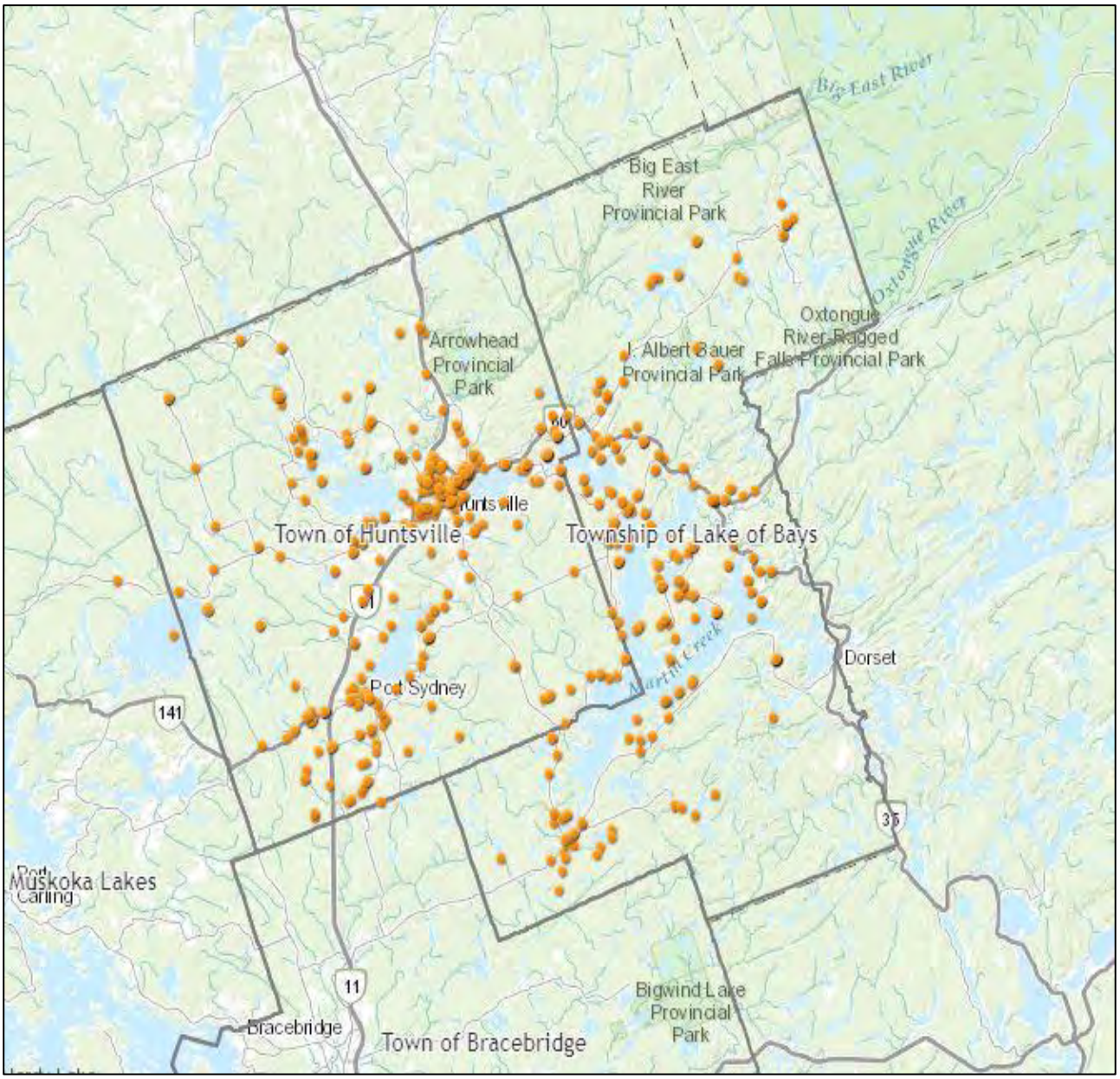
Until such time as the councils have made decisions on the operation of their fire departments, all stations should be evaluated to ensure compliance with provincial legislation, standards, and regulations. This would include functioning oil separation tanks in the apparatus bays; bunker gear stored in negative pressure rooms; gender neutral washrooms, locker rooms, and showers; barrier free in all aspects; installation of decontamination showers and eye wash stations in the apparatus bays; and discontinued use of fitness equipment in the apparatus bays.

Every station lacks safety features such as sensors on the overhead doors to prevent them from closing on an individual or vehicle, red/green lights at the overhead doors to aid the driver in knowing when it is safe to leave, barrier free, and exhaust extractions systems. Some facilities also lack smoke and CO alarms. Stations 2 and 3 should have the Electrical Safety Authority attend to provide guidance on whether the water lines by the electrical panels require shielding or be relocated.

As noted, consideration will be required to identify the future replacement of some of the stations due to health and safety related issues; their inability to meet such requirements as storage, and capacity for storing of newer, larger fire trucks. A section on future fire station locations, along with associated response mapping has been included within Appendix D for the fire chief to implement as station replacements are approved by each town's council.

6.4 Present Station Coverage and Call Cluster Map




Big East River
Big East River Provincial Park
Oxtongue River
Oxtongue River-Ragged Falls Provincial Park
J. Albert Bauer Provincial Park
Arrowhead Provincial Park
Huntsville
Town of Huntsville
Township of Lake of Bays
Dorset
Port Sydney
141
35
Muskoka Lakes
11
Bracebridge
Town of Bracebridge
Bigwind Lake Provincial Park

During EM&T's reviews, an assessment of call volumes, call locations and present response areas of the fire stations was conducted. As can be seen in these two previous maps, the location of the calls and the present station locations do offer a good level of coverage. However, due to future growth of both communities, along with the need to build and/or upgrade the present fire stations, EM&T has included a set of recommendations relating to future fire station locations that may be required over the next decade. This information can be found in Appendix D of Section.

6.5 Fire Apparatus - New and Replacement Schedules

This section assesses the department's apparatus, vehicles, and equipment, maintenance programs, capital replacement schedules and plans relative to existing and expected service demands.

Under the current agreement between Huntsville and Lake of Bays, each municipality is responsible for the expense of purchasing and maintaining of their own apparatus, facilities, and equipment. Huntsville, under the agreement, has a mechanical officer employed full-time who is responsible for repairs and maintenance to apparatus and equipment.

When assessing a fire department's ability to respond and meet the needs of the community, FUS considers the age of a fire truck as one of its guidelines. HLBFD endeavours to keep fire vehicles on a 15 to 20-year replacement cycle, in line with the FUS recommendations. Both communities are to be commended for implementing this replacement cycle. However, it was noted that a couple of the larger fire trucks (pumper/tankers) have in fact surpassed the 20-year mark.

6.5.1 FUS – Vehicle Replacement Recommendations

The following chart illustrates guidelines for vehicle replacement, according to the FUS.[31] The *Small* Communities section (bold **blue**) is the recommendation for vehicle replacement for municipalities the size of Huntsville and the Lake of Bays. This allows for up to a 20-year replacement cycle in which the fire vehicle can then be utilized as second-line response status.

[31] Fire Underwriters Survey, "Insurance Grading Recognition of Used or Rebuilt Fire Apparatus", file:///C:/Users/EmergencyMGT/Downloads/FUS-TechnicalBulletin-InsuranceGradingRecognitionofUsedorRebuilt%20(1).pdf

TABLE #10: FUS Vehicle Replacement Chart

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	First Line	**First Line**
16 – 20 Years	Reserve	Second Line	**First Line**
20 – 25 Years [1]	No Credit in Grading	No Credit in Grading or *Reserve* [2]	**No Credit in Grading or *Reserve* [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 [1]	No Credit in Grading	No Credit in Grading	**No Credit in Grading**

1. *All listed fire apparatus' 20 years of age and older are required to be service tested by 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 centre when apparatus' condition is acceptable, and apparatus' successfully pass required testing.*
3. *Major cities are defined as an incorporated or unincorporated community that has:*
    a. *a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND*
    b. *a total population of 100,000 or greater.*
4. *Medium Communities are defined as an incorporated or unincorporated community that has:*
    a. *a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND*
    b. *a total population of 1,000 or greater.*
5. *Small Communities are defined as an incorporated or unincorporated community that has:*
    a. *no populated areas with densities that exceed 200 people per square kilometre; AND*
    b. *does not have a total population in excess, of 1,000.*

FUS is reviewed by insurance companies. Provided that the department adheres to the recommended replacement timelines through an approved capital replacement schedule, it will retain its fire rating for vehicle replacement. Ensuring the vehicles are being replaced on a regular schedule, the municipalities are also demonstrating due diligence towards ensuring a dependable response fleet for

the department and the community it serves. This will keep the community's fire rating in good stance, which can also reflect on commercial and residential insurance rates.

6.5.2 NFPA – Vehicle Replacement Recommendations

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

Although there is no national standard that legally mandates the replacement of emergency vehicles, it must be kept in mind that it is critical to replace these and other apparatus before they become unreliable. Delaying the replacement is inadvisable as it will add to the overall maintenance costs of the apparatus and can have an adverse effect on insurance costs based on the fire department's FUS rating.

It is becoming quite common in fire services to standardize their fleet and ancillary equipment. By doing so, the department may realize savings in training hours and repairs as the variety of parts for repairs is lessened and the time to train firefighters on the apparatus is reduced. Additionally, the firefighters would be able to operate any apparatus in the fleet if they have the same chassis and pump.

Ancillary equipment is standardized such as the hose, nozzles, chainsaws, circular saws, extrication tools, SCBA, ventilation fans, foam equipment, etc.

The HLBFD is operating well-equipped pumpers, an aerial ladder, rescues, and tankers. There also appears to be enough chiefs' vehicles and equipment to meet the general needs of the department. Replacement schedules are identified in the capital forecast for the fire trucks. It is worth noting that some fire departments place their water tanker trucks on a 20-year replacement cycle due to the lack of use and mileage put on these specific units. To help with replacement forecasting, this is a vehicle type that can be considered a second line vehicle and may not require replacement at the 15-year mark.

In relation to vehicle replacement and refurbishing of vehicles, the industry standard for the design and replacement of vehicles is the NFPA 1901 and in Canada departments also use ULC S-515-12. It is recommended that these and other related NFPA standards relating to vehicle design, replacement and refurbishing be utilized.

When a new apparatus is ordered it should include the required ancillary equipment, which helps ensure this equipment also follows a regular replacement schedule. Further, when the apparatus is moved to a reserve status it remains fully equipped. Once an apparatus is permanently taken out of service, the ancillary equipment could be placed in storage to be used to replace damaged items or be liquidated.

6.5.3 HLBFD Apparatus

HLBFD has one spare fire apparatus available; it is a pumper-tanker housed at Station 5. If this apparatus is not required in the field, it is being used at the training centre.

TABLE #11: List of Apparatus Operated by Huntsville Fire Department

Assets Description	Quantity	In Service Date	Condition	Purchase Price	Replacement Value	Age of Equipment	Life Cycle
International - Rescue 181	1	2013	Good	$243,695.00	$450,000.00	8 yrs	20 yrs
Freightliner - Pumper/Tanker 592	1	2005	Good	$235,320.00	$435,000.00 - $500,000.00	16 yrs	20 yrs
International - Pumper/Tanker 591	1	2010	Good	$290,521.00	$450,000.00 - $500,000.00	12 yrs	20 yrs
Freightliner - Pumper/Tanker 192	1	2001	Good	$231,595.00	$435,000.00 - $500,000.00	20 yrs	20 yrs
International Pumper/Tanker 191	1	2017	Good	$370,512.00	$450,000.00- $500,000.00	4 yrs	20 yrs
American LaFrance - Ladder 161	1	2007	Good	$895,428.00	$1,500,000.00 - $2,000,000.00	14 yrs	20 yrs
Ford - Rehab 8 - Transferred from District	1	2006	Fair	---	$200,000.00	14 yrs	15 yr
Hyundai Santa Fe - C1	1	2015	Good	$36,458.95	$40,000.00	6 yrs	10 yrs
Dodge 1500 Ram -C2	1	2013	Good	$37,524.00	$40,000.00	8 yrs	10 yrs
Dodge Pro Master Unit 2	1	2014	Good	$47,703.39	$40,000.00	7 yrs	10 yrs

Assets Description	Quantity	In Service Date	Condition	Purchase Price	Replacement Value	Age of Equipment	Life Cycle
Ford Escape - Unit 3	1	2017	Good	$27,819.00	$35,000.00	4 yrs	10 yrs
Freightliner Tanker - 171	1	2021	Good	$377,786.00	---	0 yrs	20 yrs
Fire Prevention Trailer	1	2021	Good	$6,178.00	---	0 yrs	---
Kubota UTV/ w trax	1	2015	Good	$19,981.30	$25,000.00	6 yrs	15 yrs
Weberlane Trailer	1	2015	Good	$4,500.00	$4,500.00	6 yrs	15 yrs
Sea Nymph Boat	1	1998	Fair	$16,000.00	$7,500.00	23 yrs	15 yrs
Easy Hauler Trailer	1	1998	Fair	$599.00	$1,500.00	23 yrs	15 yrs
Canadian Hauler Trailer	1	2006	Fair	$5,750.00	$8,000.00	15 yrs	15 yrs
							Estimated overage + - $1,000

TABLE #12: List of Apparatus Operated by the Lake of Bays Fire Department

Assets Description	Quantity	In Service Date	Condition	Purchase Price	Replacement Value	Age of Equipment	Life Cycle
Freightliner – Pumper/Tanker 291	1	1996	Good	--	$435,000.00 - $500,000.00	25 yrs	20 yrs
Freightliner – Pumper/Tanker 391	1	2004	Good	$277,448.00	$435,000.00 - $500,000.00	17 yrs	20 yrs
Freightliner – Pumper/Tanker 491	1	2001	Good	$207,957.00	$435,000.00 - $500,000.00	20 yrs	20 yrs
GMC – Tanker 471	1	1999	Good	---	$400,000.00	22 yrs	20 yrs
Ford – Light Rescue 281	1	2005	Good	$123,035.00	$200,000.00	16 yrs	20 yrs
Ford – Light Rescue 381	1	2005	Good	$123,035.00	$200,000.00	16 yrs	20 yrs

Assets Description	Quantity	In Service Date	Condition	Purchase Price	Replacement Value	Age of Equipment	Life Cycle
Ford – Light Rescue 481	1	2005	Good	$123,035.00	$200,000.00	16 yrs	20 yrs
Bombardier ATV/ w Trax	1	2001	Good	$7,500.00	$16,000.00	20 yrs	15 yrs
Advantage Utility Trailer	1	2010	Good	$3,845.00	$4,000.00	11 yrs	15 yrs
Polaris ATV / w Trax	1	2007	Good	$6,000.00	$16,000.00	14 yrs	15 yrs
Webliner Trailer	1	2016	Good	$3,599.00	$4,000.00	5 yrs	15 yrs
Stanley 26' Boat	1	2008	Good	---	$100,000.00	13 yrs	20 yrs
Yamaha 200 HP Outboard Motors	2	2019	Very Good	$49,641.90	$50,000.00	2 yrs	15 yrs
Conner Industries Trailer	1	2008	Good	---	$15,000.00	13 yrs	20 yrs
Mercury 9.9 HP Outboard Motor	1	2014	Good	$2,499.99	$2,400.00	7 yrs	15 yrs
Starcarft Boat	1	2001	Good	---	$7,500.00	20 yrs	15 yrs
Mercury 40 HP Outboard Motor	1	2021	Very Good	$7,769.95	$8,000.00	0 yrs	10 yrs
Easy Hauler Trailer	1	2005	Good	---	$1,500.00	16 yrs	15 yrs

During the process of drawing the specifications of a new apparatus, an Apparatus Committee should be organized including the establishment of its Terms of Reference. Members of the committee should include the deputy fire chief, the department's mechanical officer, a district chief, 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 air bags and health, and safety concerns such as clean cab technologies and enhanced chassis stabilization to lesson the risk of a roll over.

For the number of calls the LOB fire department responds to and the cost of buying a new apparatus, the township should review the option of purchasing a used apparatus that is newer than what they currently have. The cost savings could be significant and places less stress upon the tax levies.

Lake of Bays has three 2005 light rescues in service that are aged and are experiencing mechanical issues. Only one of the three fire stations has a tanker and the only water the trucks carry is what is onboard the pumper tankers, which is limited. Due to the travel time, and the geographic vastness of the township, water supply may be exhausted before the next water carrying apparatus arrives. Adequate water supply during a fire call is critical. With only the pumpers carrying water at stations 2 and 3 in most cases, the lack of a constant water supply becomes an issue. The department should liquidate the rescues at stations 2 and 3 and purchase used tankers for these stations.

Rescue 481 should be removed from service, and the department acquire a rapid attack pumper which has four-wheel drive and is smaller in size compared to regular pumpers. This type of vehicle would prove to be very versatile for responses where larger two-wheel drive vehicles may not be able to access. The truck could be used for wildland fires and any burning complaints, medical calls, etc., due in part to its smaller size. Many new residents being built in the township lack well maintained roadways into the property such as cut back vegetation and tree limbs and, in some cases, deep snow in the winter. This type of apparatus would assist in gapping the inability to access a structure in remote areas. While these trucks are smaller and carry less water, they do have the same sized pump output that is found on the other pumpers and can fight any structure fire once a water supply is established.

During any emergency, it may become exhausting on human resources on the scene. Firefighters need to be rotated through operations on the fire ground and provided the opportunity to rest and rehydrate. The Province of Ontario directed fire services to establish a cancer prevention program which includes the decontamination of firefighters at the scene of an incident and not permitting contaminated bunker gear in the apparatus. The Lake of Bays should, therefore, repurpose one the current rescue trucks as a rehabilitation/decontamination unit that could be used at any incident within Huntsville or Lake of Bays. To the credit of the HLBFD, both rehabilitation and decontamination procedures are outlined in their departmental SOGs.

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 lease instead of paying a lump sum at the time of delivery. Maintenance costs have been reduced as the vehicle comes with a minimum of a three-year warranty; all of 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. This practise reduces costly repairs of aging equipment as well as one-time capital costs. Several Canadian fire services are exploring lease options.

The vehicles the chief officers drive are regular automobiles and lack the safety features found on Special Service Vehicles (SSV). With the demands placed on a vehicle during an emergency response, vehicles that have been designed for emergency response have safety features that offer better control and stopping capacities compared to general purpose vehicles. Police services have developed and tested SSV annually and provide a list of vehicles that meet this standard. These packages are available on a variety of vehicles such as sedans, SUVs, and pick-up trucks.

Huntsville's Pumper 191 has been in service since 2017 and during its short time with the department, there have been numerous mechanical issues left unresolved. The truck has frequently been out of service for a week at a time between October 2020 and August 2021. The apparatus has a long history of failing while enroute to an incident, while operating at an incident, and during training sessions. Repairs have been completed only for it to fail again a short time later. The local international truck dealer has also been involved, there is a history of the engine control module unit not working properly. It has been reprogrammed numerous times but continues to fail. Issues have also been identified relating to the diesel exhaust fluid sensors. During a training session, the pump quit operating and the truck was sent to Woodstock for a week to have a transducer replaced.

Furthermore, with the continual increasing trend in repair costs, including the finite term warranty work, it is expected that 191 will require more of the $45,000 budgeted repair costs for the entire fleet, which is trending at 5% + of the budget on average, to date. Having an apparatus that may fail during a fire suppression mission could place the Town at a high level of risk if the firefighters or a member of the public are injured or killed due to an unreliable piece of apparatus.

The firefighters have raised the issue with the Health and Safety Committee as they have lost confidence in the reliability of this apparatus. A fire apparatus must be always in a state of readiness and the firefighters need to have confidence that the truck will operate as it is supposed to. The scene of a structure fire is not the time or place for fire crews to have to trouble shoot if it breaks down and another apparatus must be put in its place. Due to the ongoing mechanical issues of Pumper 191, the Town of Huntsville needs to advance its liquidation to occur as soon as financially feasible. Many fire truck manufacturers will take a fire truck as a trade in.

The following table identifies the number of days the apparatus was out of service, which is significantly higher than most fire apparatus, which would be out of service for a couple of days to a maximum of a week or so over the year.

TABLE #13: Number of Days Huntsville Pumper 191 was Out of Service

Year	Number of Days
2017	0
2018	5
2019	14
2020	35
2021	28

Due to the space available in Station 1, it may be the opportunity to investigate a custom cab chassis versus a conventional cab chassis. While there have been no recorded incidents (brought to EM&T's attention) relating to safety concerns with the present types of vehicles that the HLBFD is ordering. Custom chassis are designed and manufactured to provide enhanced safety to firefighters in the event it is in an accident. It has a larger interior to accommodate the size of the firefighters when dressed in bunker gear, provide safe cabs for ventilation of toxic gases and special storage compartments for soiled bunker gear, etc. Special compartments may also be installed inside the cab of the apparatus to house small items such as thermal imaging camera (TIC), portable radios, flashlights, medical supplies, etc.

HLBFD has been striving to remove bunker gear being stored on fire apparatus, thereby requiring the firefighters to report to their respective station to obtain their gear. One of the reasons for this is so the member does not drive their personal vehicle to the location of the call, which can increase vehicular congestion around the scene of the emergency.

With the acquisition of four-door cabs, there is sufficient room in the cab for five firefighters to travel in a single apparatus. In some cases, custom cab apparatuses are specified to be able to transport up to 10 members. Members not taking their personal vehicles also presents a level of safety in that they are not driving beyond the speed limit in their personal vehicle.

While the Huntsville stations have several four-door apparatuses, the Lake of Bays stations do not. The current size of the stations prohibits longer chassis apparatus from being stored in the stations. Fire services throughout Ontario are moving towards having support vehicles added to their inventory of apparatus to transport firefighters, pull a boat and ATV/UTV trailers, transport equipment back to the stations, and in some cases, they are outfitted to respond to medical calls instead of responding in a pumper.

The Lake of Bays should review the advantages of acquiring a four-wheel drive, ¾-ton pick-up truck with a cap on the box for each station. These vehicles need not be a brand-new model when a good

used one would suffice. Since housing it is an issue with the current facilities, these could be parked outside and plugged in in the winter months to ensure they will start.

Pumper 291 that is assigned to Station 2 in Port Cunnington is a 25-year-old apparatus that should have been replaced five years ago. Its current mechanical condition and state of readiness has come into question due to a couple of mechanical incidents while responding to a call for assistance. A new apparatus was ordered late in 2021 with a delivery timeline of 18 months. Due to this issue alone, the Township should review the option of purchasing a good, well maintained used apparatus that would be placed in service until it is due for replacement.

The Township should contact used fire apparatus agents to review what vehicles are available. When it arrives, the new apparatus could be assigned to either stations 2 or 4 who both have pumpers that need replacement. If an apparatus that may meet the needs of the Township is found, its mechanical history should be reviewed and members of the HLBFD should travel to view the vehicle before an offer to purchase is presented. The travel costs will be an added expense to the municipality.

6.4.4 Elevated Devices

Huntsville has an elevated device in service**.** Their primary purposes are the rescue of residents from high locations, to fight fires from above, or to be used as an extension outward (e.g., rescue from the shoreline). They require high-capacity fire pumps and the nozzles at the end of the ladder have either a 3,500 L (750 gallon) or 5,000 L (1,000 gallon) per minute output.

Many departments, such as Huntsville, have purchased aerial apparatus that have a platform with a railing around it at the end of the ladder in which two or more firefighters may stand in and direct the water stream from inside the “bucket”. This style apparatus is very versatile in their applications on the fire ground and make rescues easier and much safer. The risk to firefighters is reduced as the railing and associated side panels help to protect them, along with safety belts to prevent them from falling.

The single most advantageous feature of Huntsville’s aerial-platforms is that two discharge nozzles have been installed on the platform allowing for two high volume water streams being discharged on the fire at the same time. The nozzles are independent of the other and may be aimed at different directions and have assorted water flow patterns. Technically the department would be operating two elevated water devices by using one aerial. As with ground ladders, this device’s ladder requires inspection and testing on an annual basis by a qualified company to ensure its operability is maintained. Elevated devices come in varying lengths and options. With the growth in building stock in Huntsville, the town should review the option of purchasing an additional aerial device that is 55’ to 75’ that may also be used as the main fire pumper responding out of a station. The purchase could be completed when an apparatus is due for replacement, or a new station is added.

6.4.6 Apparatus Summary

The apparatuses in Huntsville have been replaced on a manageable schedule that does not burden the tax levy. The Lake of Bays Fire Department should establish a similar capital replacement plan. The recues should be liquidated before they meet the end of their life span and replaced with tankers in the stations that do not have one. The pumpers, one of which has been identified as needing immediate replacement, are between 17 and 25 years of age.

Planning and budgeting for a new apparatus should be apart of the budget process every year, with funds set aside. A new apparatus costs between $350,000 and $700,000 depending on its function/purpose, size, body style, number of compartments, and options required. To replace all the Lake of Bays apparatuses required in the next couple of years at today's approximate purchase price, would be more than $2.5 M. This is an unrealistic cost to place on the Township at once. Considering the annual call volume the fire department has, the placement of a used apparatus is an option worth considering. These used vehicles could serve the department for at least 10 to 15 years, depending on the age of the vehicle at time of purchase.

6.5 Equipment Maintenance

There is a requirement that many pieces of firefighting equipment be inspected and tested annually. Scheduling of the testing allows the Department to confirm that apparatus and equipment testing can be done to minimize frontline apparatus being unavailable. HLBFD completes and tracks the annual equipment testing to ensure the functionality of equipment for the front lines. Scheduling the testing of equipment and apparatus would allow the department to confirm that apparatus and equipment is in a state of readiness, safe to use, and the department would be compliant with several NFPA and manufacturers Standards.

Some of the related NFPA Standards include:

- **NFPA 1851**, *Standard on Selection, Care and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*
- **NFPA 1852**, *Standard on selection, Care, and maintenance of Open-Circuit Self-Contained Breathing Apparatus*
- **NFPA 1858**, *Standard on Selection, Care and Maintenance of Life Safety Rope and Equipment for Emergency Services*
- **NFPA 1911**, *Standard for the Inspection, Maintenance, Testing and Retirement of In-Service Emergency Vehicles*
- **NFPA 1914**, *Standard for Testing Fire Department Aerial Devices*
- **NFPA 1932**, *Standard on Use, Maintenance, and Service Testing of In-Service Fire Department Ground Ladders*

- **NFPA 1937**, *Standard on Selection, Care, and maintenance of Rescue Tools*

The HLBFD Respiratory Protection Program is overseen by department staff. FIT testing is completed as required by CSA Z94. While the Respiratory Protection Program document is well developed, Section 21 Guidance Notes should be reviewed for amendments that could affect the program. The document should also list the dates in which was reviewed and amended.

The SCBA are in good condition as they were replaced a few years ago. The department currently has hydrostatic testing completed on the SCBA tanks when required. The SCBA is bench tested yearly to ensure their performance meets industry standards and manufacturer's requirements.

6.5.1 Asset Management Program

Fire administration has established an asset management program and specifically 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. This is being accomplished through a computer program.

Many pieces of equipment have a predetermined life span as established in either the NFPA Standards and/or the OH&S Sections 21 Guidance Notes. When it comes to the end of the life span, the items must be decommissioned, replaced with new items, and then disposed of in a manner that ensures they could not be used by any other outside interests for liability reasons. The asset management program should be designed to trigger notifications when an item is approaching the end-of-life span and plans should be in place for replacement (i.e., identified in the budget).

As with many fire services, new equipment is acquired and placed on the apparatus and over the years, the compartments get rather full. All of this adds weight to the apparatus and could result in overloading the apparatus. The mechanical division needs to be cognisant of this and weigh the vehicles annually. This has not been recently completed. As such, all apparatus should be weighed to ensure they have not surpassed their assigned Gross Vehicle Ratio Weight (GVRW) limit.

6.5.2 Mechanical Repairs

When an apparatus or piece of equipment needs repair, a request is sent to the mechanical division. The officer in charge then arranges the repair. At present the HLBFD is going out to the public for a truck repair business to bid on completing the necessary repairs to fire apparatus. Within the tender, it identifies the need for the fire apparatus to be repaired in an expeditious manner, which has not always been the case in the past.

A spare pumper that is housed in Station 5 has now been made available to both fire services any time another truck requires major repairs.

Repairs to fire apparatus may be complicated due to the computer equipment onboard. Personnel that repair fire trucks must undergo a significant amount of training to become a certified Emergency Vehicle Technician (EVT). Any repairs to vales, pumps, or electrical components of a fire trucks should be completed by a certified mechanical technician including having their EVT certification.

Fire apparatus require the fire pumps to be tested annually to ensure they are producing the amount of water flow it is rated for. This is presently being completed by a third party who is also capable of making repairs to the pump simultaneously.

6.5.3 Bunker Gear

Every year, firefighters in ever-increasing numbers are being diagnosed with cancer. A contributing factor to their illness has been proven to be the contaminants that adhere to the bunker gear during fire fighting operations. After a fire, the bunker gear should be packaged and sent for cleaning to reduce this risk. HLBFD has two stations with commercial washing machines made specifically for this type of cleaning.

While bunker gear is being cleaned, the firefighter requires a replacement set. Ensuring that the cleaning of gear is a high priority after fires and that firefighters have access to properly fitting bunker gear during the cleaning process will assist the Department in meeting its decontamination and hygiene program. There are departments that assign a second set of bunker gear to each firefighter, so they have a clean set to place in service. The HLBFD should review its current inventory of spare bunker gear to see if this is a viable option.

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*.

Along with the bunker gear, washing of the firefighter's uniform and/or personal clothing that was also contaminated (at a fire or other emergency scene) is also required.

6.6 Generators

When there is a power interruption an automatic stand-by power back-up system should be available at each of the stations. While there are generators available, not all of them are providing power for the entire station and this is a health and safety concern. Each station should have 100% of the building with power to ensure proper lighting, heating, and other general operations at these emergency services facilities. Without proper lighting injuries could occur.

The Huntsville stations each have a permanently installed back-up power supply while the Lake of Bays stations have small portable generators available that someone must attend at the station to

start up and energise portions of the building. Due to the frequency that the power supply is disrupted in Muskoka, permanently installed generators that start up automatically should be considered for all stations.

6.7 New Technologies

New technologies are being developed each year to protect the firefighters; these include the use of robotics to fight fires, which are being actively used in Europe and Asia.

New SCBA have built-in telemetry systems that, like some portable radios, identify the location of the firefighter. New technology SCBAs can transmit GPS data, the amount of air in the SCBA cylinder, monitor the heart rate, level of exertion the firefighter is being exposed to, and body temperature.

Drones

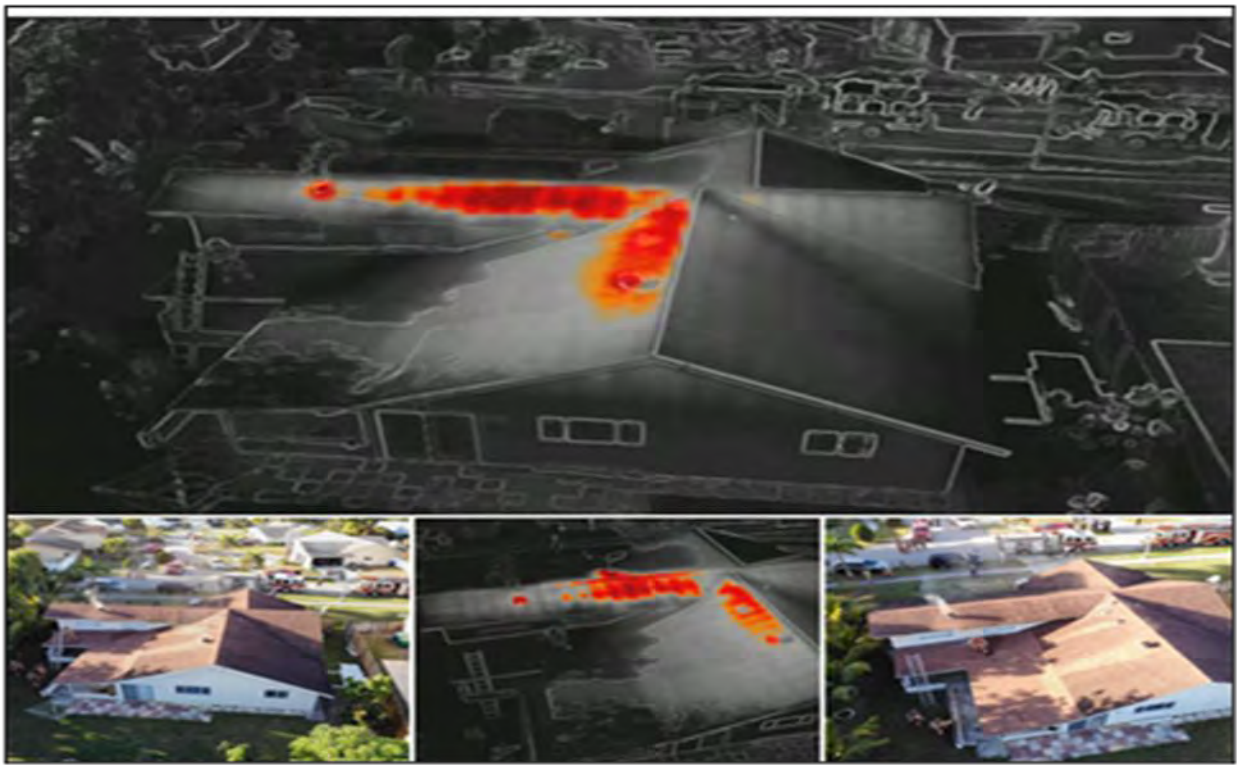
Technology is ever evolving within the fire service, with new pieces of equipment being added to the resources used by an incident commander. One such technology which has proven to be a valuable tool is the use of drones. Police services have been using them for some time to locate missing persons or document accidents and crime scenes. The use of drones in the fire service is a growing trend as a multi-purpose tool that can assist with large scale assessments of fireground and hazardous material incidents, enhance search and rescue functions, and be used in pre-incident planning.

Drones can cover a lot of ground thus allowing valuable fire services personnel to be utilized elsewhere. They have proven beneficial for hazardous materials incidents and large-scale emergencies as the drone can be quickly deployed and give the Incident Commander a live view of the incident. The reduction of risk to firefighting personnel is a significant benefit of drone technology along with the live view capabilities that provides invaluable information to the Incident Commander.

This technology is used by many fire departments in Canada that vary in size from a large metro fire department such as the Winnipeg Fire Paramedic Services to a volunteer fire department like Grey Highlands Fire and Emergency Services and Clearview Fire Department. In 2021 the Grey Highlands Fire and Emergency Services deployed their drone at a technical rescue involving a climber that had become injured due to a fall and was able to locate them, which resulted in the crews attending to the patient's needs much sooner.

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

A structure fire attended by the Lauderhill Fire Department in Florida 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. [32]



A drone would be especially beneficial to the HLBFD when fighting a wildland fire by allowing the Incident Commander to see the fires progression and fire suppression operations in the field. It would also be a valuable tool when searching for a lost hiker or hunter.

HLBFD is always advancing its level of service provision which in many cases requires funds to be budgeted for the acquisition of new or additional equipment and training. The firefighter associations of both municipalities have very generously been donating funds to offset these expenses. But their generosity in supplementing what should be the budgeted funds, has become the norm which then means other community services do not receive funds they could use. Budgets should be adjusted to cover the full costs associated with such purchases and if the associations wish to contribute to the expenses, that should be at their discretion.

[32] 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.

6.8 Hydrants

The District of Muskoka supplies water to the populated areas and has approximately 643 fire hydrants in Huntsville of which 65 are private hydrants. In the Baysville area of the Lake of Bays there are currently 57 in use of which 5 are private. Water is drawn from Fairy Lake for the communities.

All fire hydrants are required to be inspected and tested as required, in Articles 6.6.5.2. through 6.6.5.7. of Ontario Regulation 213/07 of the *Municipal Act*. The installation of private hydrants needs to follow NFPA 24, *Standard for the Installation of Private Fire Service Mains Their Appurtenances,* along with being serviced and identified, according to NFPA 291, *Recommended Practises of Fire Flow Testing and Marking of Hydrants*. The district ensures every hydrant is flushed each year. The failure of a hydrant to operate as required may present catastrophic results and expose the district to risk of litigation.

The District of Muskoka should ensure that each hydrant is coloured coded in compliance with NFPA 291 Standards for fire flow. There are long upright reflectors affixed to some of the 65 mm ports, that indicate the location of the hydrant, which is helpful during the winter months. Some municipalities have gone the extra step and installed reflectors on the 65 mm ports that are colour coded identifying the hydrants fire flow. Having the reflector aids firefighters in locating hydrants at night.

NFPA 291, states hydrants should be identified in the following manner:

- Article 5.2.1.1: *All barrels are to be chrome yellow except in cases where another colour has already been adopted.*
- Article 5.2.1.2: *The tops and nozzle caps should be painted with the following capacity indicating colour scheme to provide simplicity and consistency with colours used in signal work for safety, danger, and immediate condition*:
    - *Class AA – Rated capacity of 1500 gpm (5,700 L/min) or greater is to be light blue*
    - *Class A – Rated capacity of 1,000 – 1,499 gpm (3,800 – 5,699 L/min) is to be green*
    - *Class B – Rated capacity of 500 – 999 gpm (1,900 – 3,799 L/min) is to be orange*
    - *Class C – Rated capacity of less than 500 gpm (1,900 L/min) is to be red*

Water reservoirs in the municipalities are also operated and maintained by the District of Muskoka. There are three inground reservoirs along with a clear well located at the water treatment plant in Huntsville. The minimum water main size permitted to be installed is 150 mm (6”). The district has initiated a 10-year water main replacement program in the older parts of the municipality.

When a fire hydrant is out of service, the District of Muskoka should notify the fire department of such breakages as well as the anticipated time to complete the required repairs.

6.9 Superior Tanker Shuttle Accreditation

Many fire services have attained their Superior Tanker Shuttle Accreditation. The Tanker Shuttle Accreditation demonstrates that the fire department can aggressively attack rural fires maintaining a consistent large volume of water flow in areas without fire hydrants. Part of the process is to ensure tankers have adequate, nearby locations with which to refill using regular hydrants, dry hydrants, cisterns, streams, or the lake (preferably with a dry hydrant).

The HLBFD has not attained a Superior Tanker Shuttle Accreditation but has completed an independent accreditation in the past. However, until such time that additional pumper/tankers are added to the two fire departments' inventories, the application for Superior Tanker Shuttle Accreditation or the independent process should nor be delayed. Without the required resources, the opportunity of a successful accreditation is minimized.

The HLBFD should reference NFPA 1231, *Standard on Water Supplies for Suburban and Rural Fire Fighting* to see what enhancements could be achieved in their operations.

Recommendation(s)

Rec #	Responsibility	Recommendation	Suggested Timeline
18	Township of Lake of Bays	LOB review opportunities to purchase a used apparatus vs new one.	Immediate (0 – 1 years)
19	Township of Lake of Bays	The rescues at Station 2 & 3 be liquidated and the municipality purchase used tankers in their place.	Short-term 1 – 3 years)
20	Township of Lake of Bays	Rescue 481 be replaced with a four-wheel drive rapid attack vehicle with a pump capacity of 5,000 l/min (1,050 gpm) output.	Immediate (0 – 1 years)
21	Town of Huntsville/HLBFD	Aerial device in Huntsville should receive an annual inspection and testing in accordance with manufacturers and NFPA standards and recommendations.	Immediate (0 – 1 years) and ongoing
22	HLBFD	Continue to establish an asset management program for input of new equipment, record testing and maintenance which includes an appropriate computer program.	Immediate (0 – 1 years)
23	HLBFD	Obtain and maintain their Superior Tanker Shuttle Accreditation for both municipalities.	Short-term (1-3 years) and ongoing
24	HLBFD	The fire department should engage the District of Muskoka in a dialogue about bring the hydrant colour coding in compliance with the standard	Short-term (1-3 years) and ongoing

SECTION

7 Emergency Management

7.1 Emergency Management Program

7.2 Emergency Operations Centres

7.3 Emergency Planning, Training, & Exercises

7.4 Emergency Response Plans

SECTION 7: EMERGENCY MANAGEMENT

7.1 Emergency Management Program

In this section EM&T conducted a review of HLBFD Emergency Management Program(s), including existing training for employees and response planning.

As mandated by the *Emergency Management and Civil Protection Act* (EMCPA), all municipalities in Ontario must have an emergency response plan and an emergency planning program. For every community in Ontario, there must also be an identified Community Emergency Management Coordinator (CEMC). Within Huntsville, this role is fulfilled by the FPO. Within LOB, this role is filled by the public works manager. Based on interviews with staff, the Emergency Response Plan complies with all required legislation and that annual Control Group meetings, training, and exercises are conducted. All components are reviewed regularly.

7.2 Emergency Operations Centres

The primary and secondary emergency operations centres (EOC) are functional spaces that can be configured, as needed, by the EOC group. The Huntsville primary EOC is located at the town hall. There is need for a permanent generator with capacity to power the municipal offices including the EOC; the current set-up requires the transport of a generator from an off-site location to the municipal offices and set up. This portable generator only partially runs the facility. It is recommended that this be rectified as soon as possible.

Based on a review of the present EOC facilities and the programs in place, both municipalities are adequately equipped in relation to the EOC locations. The single recommendation is made for installation of a proper-sized, permanent, back-up generator at the Huntsville municipal offices for EOC back-up power.

The Huntsville organization has transitioned to Incident Management System (IMS) and has trained to operate in the EOC. However, with new staff and with consideration for depth of trained staff resources in the municipality for alternate(s) in EOC, further formal planning and training is recommended.

The Lake of Bays organization is not IMS transitioned. IMS transition and training is required. Tabletop or functional exercise with accompanying IMS training will serve to increase the depth and breadth of staff available to operate in the EOC as well increase the capabilities of the municipal EOC and Emergency Management Program. This would also increase the back-up staffing opportunities in EOCs should one municipality or the other have staffing challenges in actual events.

Given the relation between Huntsville and LOB regarding fire services, it makes sense that a collaborative effort regarding annual training, exercise(s), and minimum requirements as set out by the OFMEM, occur between Huntsville and LOB Emergency Management Programs. These joint activities would also make reporting to both councils a more effective process.

A standard council report outlining the requirements under the *EMCPA* and how the respective Emergency Management Programs are meeting performance measures as well as planned activities to meet the goals of the Emergency Management Program(s) should be considered as a prudent and justifiable objective of both municipal CEMCs. This joint and formalized reporting is also beneficial in that it provides an effective organizational communication opportunity to promote the respective programs and provide councils with a clear understanding of current and future requirement of the programs.

The region has recently provided a "call-back" system which the municipalities have access and can use. Discussions with the CEMCs indicates that this system works well and has been used in non-emergency situations to call together the Control Group.

7.3 Emergency Planning, Training, & Exercises

Emergency planning and IMS are skills that need to be used regularly and conform with the Provincial IMS Doctrine.[33] Several training options will be identified to assist Huntsville/ Lake of Bays to plan and exercise in IMS and their emergency plan activation.

EOC Activation: Planning for a practice activation of the primary and secondary EOC keeps staff orientated to their roles and all staff members that 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, by-laws, and any policies that could impact an emergency. The discussion sessions are low key, low pressure and a great tool for familiarization of plans, procedures, by-laws, 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.

[33] Ontario Ministry of the Attorney General, "Incident Management System", last updated March 31, 2021, https://www.emergencymanagementontario.ca/english/emcommunity/ProvincialPrograms/IMS/ims_main.html

Discussion-based training is a great way to orientate new staff or existing staff that have not had a real opportunity to familiarize themselves with the emergency plan or organizational plans, by-laws, procedures and policies and procedures.

Tabletop Exercise: These exercises are low cost with minimal stress, but preparation can require some time to create a scenario that is relevant to the municipality. A tabletop exercise 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 the 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 a full-scale exercise. The disadvantage of an operations-based exercise is that they require 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:

- Drill - These are exercises that are intended to evaluate a specific operation. For example, the HLBFD and Region Paramedics may conduct a drill of carbon monoxide leak in a long-term care home.
- Functional exercise - These exercises can be complex with a high degree of realism and are used to test plans, procedures, and policies into the training scenario. These exercises are used by agencies to test their capabilities of performing multiple functions in a scenario that is located at a single site.
- Full-scale exercise - 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 and require a significant investment in resources and funds. Several facilitators are required to ensure safety and compliance to 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 agencies 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.

Huntsville and LOB CEMCs need to collaborate and prepare a three-to-five-year schedule for both municipalities that should identify EOC activation orientation, training, annual tabletop, and

operations-based exercises for the municipalities and external agencies to practice together and test their systems and procedures.

7.4 Emergency Response Plan

The latest version of the Emergency Response Plan (ERP) for Huntsville was completed in 2017 and in 2019 for LOB. It is a requirement for them to be reviewed and updated each year. This may require minor changes and not a complete document update and cataloging such changes are to be noted in the ERP.

Items to be noted include the following:

- The date changes were completed.
- A brief outline of the changes and the sections involved.
- Name of individual completing the updates.
- Whether the revised document requires council approval.

After a review of the current ERP for both municipalities, consideration should be given to the inclusion and regular updating of emergency plans of outside agencies being included in the appendices. These agencies may include District/Region conservation authorities, major industry, airports, and EMS. Once the ERP is updated and approved by council, it should continue to be made available to the public through the municipal website.

With so many acts of domestic terrorism taking place each year throughout the world, including Canada, a municipality must plan for such an event that could occur within their own community. The ERP should have a section dedicated towards domestic terrorism. The section should include an integrated response program comparable to NFPA 3000, *Standard for an Active Shooter/Hostile Event Response (ASHER) Program*. Partnerships could be achieved with outside agencies such the CNR/ Metrolinx Safety Officers, OPP, and EMS to develop and deliver a presentation to the public and include local businesses as sponsors, to assist in offsetting any expenses.

It is a joint and positive outcome for Huntsville and LOB CEMCs to review partnership opportunities in the delivery of an ASHER program to the community.

Recommendation(s)

Rec #	Responsibility	Recommendation	Suggested Timeline
25	Town of Huntsville	Install a proper-sized, permanent, back-up generator at the Huntsville municipal offices for primary EOC power.	Short-term (1 – 3 years)
26	Township of Lake of Bays	Emergency Operation Center and Emergency Response Plan to transition to IMS.	Short-term (1 – 3 years)
27	Both Communities	Huntsville and LOB CEMCs collaborate to: - joint exercise and council reporting of EM Programming checklist and initiatives. - prepare a three-to-five-year schedule for both municipalities that should identify EOC activation orientation, training, annual tabletop, and operations-based exercises. - CEMCs review partnership opportunities in the delivery of an ASHER program to the community.	Mid-term (4 – 6 years)

SECTION 8 Fire Service Agreements

8.1 Mutual Aid, Automatic Aid, & Fire Protection Agreements

SECTION 8: FIRE SERVICE AGREEMENTS

8.1 Mutual Aid, Automatic Aid, and Fire Protection Agreements

8.1.1 Mutual Aid

The Provincial Mutual Aid Program is a borderless and reciprocal agreement that allows fire departments to come to the assistance of other fire departments who have overstretched their own local resources in dealing with emergency events. 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 in turn establish and maintain the Mutual Aid Plan. The local Mutual Aid Plan has been established within the District of Muskoka

During the review conducted by EM&T, it was observed that the HLBFD has positive working relationships with the other fire departments in the surrounding jurisdictions. As such, mutual aid and other required agreements are in good working order.

The most current Provincial Mutual Aid Plan is dated for 2018-2022. It is understood that the Muskoka Fire Departments have not updated to this version of the Provincial plan. As such, it is recommended that HLBFD work with the other Muskoka Fire Departments in ensuring the Muskoka Mutual Aid Plan is up to date and new municipal by-laws are enacted through respective council s.

8.1.2 Automatic Aid

Automatic Aid Agreements allow for fire stations from other jurisdictions, that may be closer to an emergency event, to respond either first or in conjunction with the local municipal fire department. Automatic aid is generally considered in other jurisdictions as a program designed to provide and/or receive assistance from the closest available resource, irrespective of municipal boundaries, on a day-to-day basis. These agreements allow for a level of service that is manageable and sustainable within a given area of a municipality. These agreements are like the Mutual Aid Plan but differ in that there is an expectation that a call for service will occur regularly and is thereby expected to occur. It is also established within the agreements as to what level of service will be provided. Some examples are strictly for structure fires, whereas others may be all encompassing service. These are written agreements and enacted through council in the form of a by-law. The authority to enact such agreements is derived from the *PFFA*, 1997, S.O. 1997, c. 4. It states,

> Automatic aid agreements
>
> 1(4) For the purposes of this Act, an automatic aid agreement means any agreement under which,

> (a) a municipality agrees to ensure the provision of an initial response to fires, rescues and emergencies that may occur in a part of another municipality where a fire department in the municipality is capable of responding more quickly than any fire department situated in the other municipality; or
>
> (b) a municipality agrees to ensure the provision of a supplemental response to fires, rescues and emergencies that may occur in a part of another municipality where a fire department situated in the municipality is capable of providing the quickest supplemental response to fires, rescues and emergencies occurring in the part of the other municipality. 1997, c. 4, s. 1 (4)

In general, these agreements are paid agreements that come with an annual retainer and by-call user fee. At times these can be reciprocal and equal agreements where there is no fee attached. There are also some provisions within these agreements that allow for the coverage of expenses by the responding fire department. A simple understanding of these types of agreements can be gained by asking the question, "should my tax money pay for fire protection in another municipality?"

The HLBFD has two Automatic Aid Agreements in place. These are with Algonquin Highlands and Muskoka Lakes.

8.1.3 Algonquin Highlands (Lake of Bays)

The Algonquin Highlands Automatic Aid Agreement is with the Township of Lake of Bays, By-Law 02-48. This By-Law was enacted June 4th, 2002, in Lake of Bays, and November 7th, 2002, under By-Law 02-36 in Algonquin Highlands.

This agreement is dated and is recommended for review and renewal. While the geographical area captured within this agreement make historical sense, some provisions of service and cost should be reviewed and updated. For example, the agreements denote that both fire departments will respond on a 'good will' basis. This 'good will' then comes with a cost to the Township of Lake of Bays with no method of being able to redeem these costs.

Within the catchment area of the agreement both Algonquin Fire Department and HLBFD will respond to structure fires. The agreement notes, "all reported or confirmed structure fires within this area shall receive an automatic second call response from the appropriate station."

Within the agreement, the Algonquin Highlands Fire Department will respond to emergencies within the noted area when the emergency call is received. The HLBFD will respond as required and requested to the same emergency incident. To ensure clarity in actioning the agreement, the term 'required' within the agreement should be removed or defined.

Within the established area of the agreement, HLBFD with Station 70 (Oxtongue), will respond on an automatic basis for all motor vehicle accidents in conjunction with Algonquin Highlands Fire Department to assist with extraction on a good will basis. Within 10(a) of the agreement there is the provision for the Algonquin Fire Department to bill the MTO the appropriate fee for services within the defined area. This section denotes Algonquin Fire Department as the 'home' fire station, which is not correct. In this case, the HLBFD should also be called to respond to the same event. There is no provision then for cost redemption to MTO for HLBFD as this is retained with Algonquin Highlands Fire Department. The Fees & Charges By-Law for Lake of Bays allows for the invoicing of all motor vehicle collisions in this and all other areas in the municipality.

Within 10(a) of the agreement there is provision for Algonquin Highlands to enter into an agreement with the District of Muskoka for First Response medical services in the defined area and collect fees payable for providing such services. Algonquin Fire Department responded into the defined area 26 times in 2018, 17 times in 2019, and 39 times in 2020. From January to July 2021, there were 21 responses. The request for assistance occurred only 6 times into the area from 2018-2020 for HLBFD with Station 70 (Oxtongue). This is not an area of concern, but the responses should be monitored, and any increase be addressed in subsequent agreements.

There does appear to be a steady increase in call volume within the area over time. It is recommended that an Automatic Aid Agreement be maintained for the area under an updated agreement. It is further recommended that the fee schedule be reviewed and updated. This could include the set retainer fee and then as user fee with Lake of Bays retaining all billing rights for cost recovery.

8.1.4 Muskoka Lakes (Huntsville)

The Automatic Aid Agreement with the Township of Muskoka Lakes 2012-33 was enacted April 23rd, 2012, in Huntsville, and May 12, 2012, in Muskoka Lakes under By-Law 2012-27. While this agreement is dated and should be considered for renewal, the areas covered for both municipalities appear to be appropriate. Being that the areas are covered cooperatively, the agreement is on a goodwill basis. This means that neither municipality pays for the services noted within this agreement. This is appropriate being that both cover areas of approximately the same population and size.

There are minimal responses in these shared areas. In 2018 Huntsville responded one time. In 2019 Huntsville responded one time. In 2020 Huntsville responded three times. Conversely, Muskoka Lakes Fire Department responded into the Town of Huntsville in 2018 one time. In 2019 Muskoka Lakes responded three times, and in 2020 Muskoka Lakes responded four times. Given the extremely minimal responses for either party in this shared area, there is not a concern of inequitable

addressing of service level. It is suggested that the annual responses be monitored, and the Agreement adjusted to address any service level variance that may arise.

8.1.5 Fire Service Agreements (Lake of Bays and Huntsville)

Fire Department Administration Services Agreement

The current version of the agreement was enacted August 2012. The agreement notes that it, "is intended to provide services related to the administration of the operation of the Lake of Bays fire protection services effectively, efficiently, and safely through a co-operative and flexible approach to benefit the inhabitants of both municipalities. Ultimately, this program will improve the level of public safety to inhabitants of Lake of Bays and of the Town of Huntsville." This agreement outlines the administrative services that will be provided by Huntsville to Lake of Bays. Since the beginning of this agreement the joint fire department has worked well and proven itself to fulfil the mandates established within the agreement.

As with agreements of this nature, on-going reviews should occur. The content of this agreement sets out the initial six years with a phase in period and then establishes the yearly adjusted actual costs moving forward that is divided between the parties as a percentage split. As needs and circumstances change within both municipalities a review of the agreement should include the services provided to ensure they are still viable and other services are considered where needed. While it is evident significant work was done to find the percentage balance and shared costs, it is important to review annually. As changes occur, the balance of costs may shift. When the cost changes occur, updates to the appendix should follow suit.

Within the agreement there is no avenue for the expansion of the administrative, or even the firefighting team. As the communities grow so does the demand for service. Where there is increased level of service provided to the population this in turn creates administrative burden. It is recommended that periodic reviews for administrative staffing levels occur that coincide with the review of this agreement. A mechanism for accepting additional staffing by both municipalities should be included in the agreement so that the fire chief can properly prepare submissions and maintain the level of service currently provided.

It is recommended that the Fire Department Administration Services Agreement between the Town of Huntsville and the Township of Lake of Bays be reviewed, and any cost sharing updates be established based on needs and circumstance changes from year to year.

It is recommended that a mechanism for accepting additional staffing be investigated and included within an updated agreement to ensure service levels are maintained to the growing communities in the future. Agreements should cover training costs and vehicle/equipment costs.

8.1.6 Fire Dispatch Service Agreement (Lake of Bays and Huntsville)

The Fire Dispatch Service Agreement for the Lake of Bays provided for review is dated June 1st, 2014. It is noted in Section 6 – Term that the duration of this agreement is for four years and six months, or December 2020. It is a wholesome agreement that has been working well for the municipality.

The Fire Dispatch Service Agreement for Huntsville, and by notation, HLBFD is dated January 1st, 2019. This agreement appears to be an administrative agreement enacted through Huntsville to provide dispatch services to the HLBFD as a whole, covering both municipalities. It is an updated agreement consisting of the set services as noted in the previous 2014 version.

Within the document there is notation of the municipality providing for emergency back-up dispatching when there is problem with communications. While the agreement does note, 'a temporary basis', it does not provide for a duration. While this may be difficult to determine a timeframe, consideration could be given to a maximum temporary duration after which rebates of service cost occur. This would allow the municipality to offset the agreement cost and pay personnel for the temporary measures.

The cost of service is based on population, both permanent and seasonal. The responsibility of determining population is left with the Barrie Fire & Emergency Services to determine. It would be prudent to include wording in the agreement that both parties agree with the population figures. Further, a set process for the fire chief to work with municipal partners should be established to determine annual population and ten-year forecast. This would allow appropriate budgeting for service for current and ongoing years.

There has been considerable discussion and progress in NG9-1-1 updates that will impact all Emergency Services. A key concern that is shared industry wide is the overall costs of this change. What will be required and what funding will be needed has yet to be determines as is the municipal responsibilities with these changes. It is recommended that a healthy reserve fund be established to account for this forthcoming change.

The agreement does not denote service level time frames as outlined in NFPA 1221 - *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems,* NFPA 1225 - *Standard for Emergency Services Communications,* and other related standards. To ensure service delivery remains effective, standards should be referenced with key performance indicators (KPIs) followed. Where KPIs are proven to be substandard, it will provide the vendor with areas of weakness to work on and ensure that the conditions of the agreement are met.

8.1.7 First Aid Agreement (Tiered Response - Medical)

Lake of Bays and Huntsville municipalities have separate, but nearly identical agreements with the District of Muskoka for First Aid, Tiered Responses, for medical related emergencies. Both agreements are signed by the municipal representatives and the District of Muskoka on August 5, 2014.

Both agreements outline the types of medical responses that the fire department will be called to assist. These are:

- Cardiac/Respiratory Arrest/VSA (Vital Signs Absent)
- Unconscious/Unresponsive
- Chest Pain
- Difficulty Breathing
- Uncontrolled Bleeding
- Multi Casualty Incident

This breakdown of call types appears to be appropriate for the service area. The agreement covers the following stations, and the Table 13 provides the number of annual responses.

TABLE #14: Call Types

		2018	2019	2020
Station 1	**Huntsville**	2	1	4
Station 2	**Port Cunnington**	28	16	22
Station 3	**Hillside**	26	29	40
Station 4	**Baysville**	28	38	37
Station 5	**Port Sydney**	48	48	43
	Interlaken	7	Closed	Closed

The agreements provide for payment of services for each response as a single invoice. Payment for service is set at ½ hourly MTO rate as set each November. As of November 1, 2020, the hourly MTO rate $488.40 with ½ being $244.20 per incident. The responsibility lies with each municipality to update the District of Muskoka with the rate of annual increase as they occur.

The agreement also sets the level of training required by the Fire Department. The agreement notes:

- First Aid by a recognized agency such as St. John's Ambulance or the Red Cross
- Cardiopulmonary Resuscitation in accordance with the Heart and Stroke Guidelines
- Training in accordance with the Ontario Fire Service Standards

Ontario Fire Service Standards are no longer utilized provincially, there has been a move to the NFPA Standards. There is no specific NFPA standard for Pre-Hospital Care. As such, it is recommended that a determination of the level of training, if greater than First Aid, should be established and the program should be outlined within the agreement.

8.1.8 Municipal Forest Fire Management Agreement – MNRF (Lake of Bays and Huntsville)

Both municipalities have agreements with the Ministry of Natural Resources and Forestry under the authority of the *FFPA*, for the prevention, control, and extinguishment of fires within the respective municipality. This is a reciprocal agreement that is derived from a template used by the province for municipalities within a fire region.

The agreement shared for review by EM&T is 2015-2019 term. It is recommended that this agreement be updated as there is considerable cost reductions and cost avoidance when requiring the MNRF resources to fight forest/bush fires within the municipal responsible areas. The set annual fee for the agreements is determined by the hectares protected. If the MNRF protects more municipal land than the municipality covers MNRF land, then the municipality will pay for coverage. The opposite is also true. In the cases for Lake of Bays and Huntsville, both cover more Crown land than the MNRF covers municipal land. Both municipalities therefore receive funds from the province for the annual agreement.

- Lake of Bays received funds from the Ministry in excess of $18,800 per year, as of 2019.
- Town of Huntsville receives funds from the Ministry in excess of $5,300 per year, as of 2019.

8.1.9 Joint Fire Services Board Agreement

During the master planning process, it was noted that there are in fact two fire departments being managed by one administrator – the fire chief. Although this process has its merits, it does not truly look at the fire service as a joint venture to provide borderless services much like what is presently occurring with the Police and EMS services. Although the present process is working for the two communities. There is an opportunity to improve the reporting structure through a Joint Fire Services Board (JFSB).

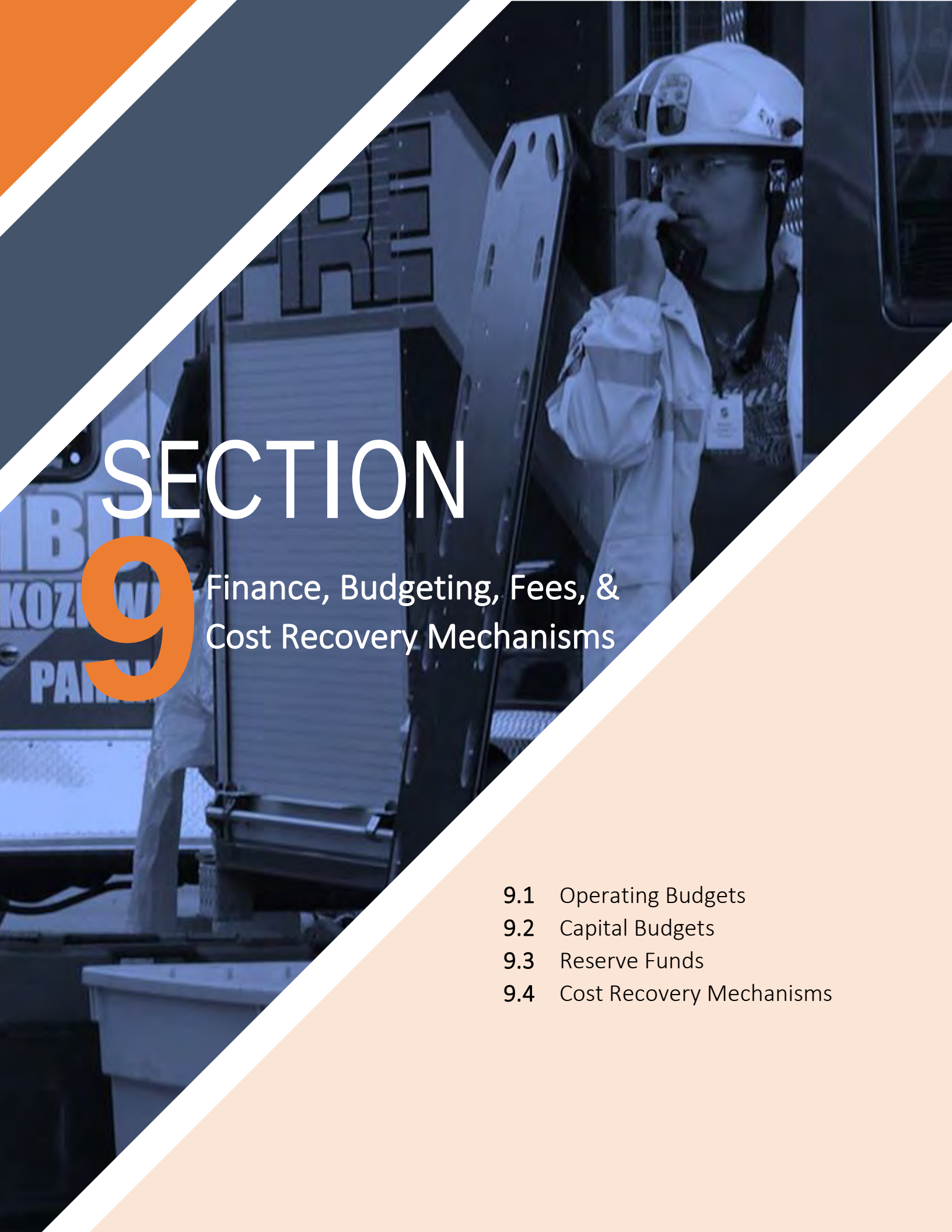
Some communities that participate in this type of joint fire service agreement have created a JFSB that is made up of an equal number of members from each community. This can be both community CAOs, along with a council representative from each community. The advantages of this JFSB are that the fire chief has only one committee to report to; each community is playing an active and decision-making role relating fire department operations and management. From a cost containment perspective, the JFSB members with the fire chief can identify cost and operational efficiencies. These members can then report back to their own councils on the status of the fire service, along with any recommended improvements.

By creating a JFSB, the municipalities, still have full control over the fire department, but with the JFSB, there is more of an active role being played by both partners in this joint venture. EM&T is recommending that Huntsville and Lake of Bays discuss and implement this JFSB opportunity to provide a more inclusive managed service.

Recommendation(s)

Rec #	Responsibility	Recommendation	Suggested Timeline
28	HLBFD	Being that a review and updated Provincial Mutual Aid Plan is scheduled, HLBFD are to work with the other Muskoka Fire Departments in ensuring the Muskoka Mutual Aid Plan is up to date and new municipal by-laws are enacted through respective councils.	Short-term (1 – 3 years)
29	HLBFD	An Automatic Aid Agreement be maintained under an updated agreement. - It is further recommended that the fee schedule be reviewed and updated. This could include the set retainer fee and then a user fee with Lake of Bays retaining all billing rights for cost recovery.	Short-term (1 – 3 years)
30	HLBFD	The Fire Department Administration Services Agreement between the Town of Huntsville and the Township of Lake of Bays be reviewed, and any cost sharing updates be established based on needs and circumstances from year to year.	Short-term (1 – 3 years)
31	Both Communities	As the community grows so does the need for fire department services. This increased need adds pressure to the current staffing model. It is therefore recommended that a process for reviewing and approving additional staffing be included within an updated agreement to ensure service levels are maintained to the growing communities in the future.	Short-term (1 – 3 years) and ongoing
32	HLBFD	It is recommended that for the Fire Dispatch Agreement that wording be included to allow for both parties to agree with the population figures. - Further, a set process for the fire chief to work with municipal partners be established to determine annual population and ten-year forecast. This would allow	Short-term (1 – 3 years)

Rec #	Responsibility	Recommendation	Suggested Timeline
		appropriate budgeting for service for current and ongoing years.	
33	HLBFD	Within the First Aid Agreement for Tiered Medical Responses a determination of the level of training, if greater than First Aid, should be established and the program should be outlined within the agreement.	Short-term (1 – 3 years)
34	HLBFD	The Municipal Forest Fire Management Agreement be updated.	Short-term (1 – 3 years)
35	Both Communities	Both LOB and Huntsville should consider the option of creating a Joint Fire Services Board.	Short-term (1 – 3 years)



SECTION 9

Finance, Budgeting, Fees, & Cost Recovery Mechanisms

9.1 Operating Budgets
9.2 Capital Budgets
9.3 Reserve Funds
9.4 Cost Recovery Mechanisms

SECTION 9: FINANCE, BUDGETING, FEES, & COST RECOVERY MECHANISMS

The HLBFD, through both municipalities has established operating and capital budgets that are balanced for the delivery of fire services within each municipality.

During the review of the operating and capital budget process, it was found that HLBFD is well organized in both areas. This indicates a strong level of support by both councils in assisting the fire department with meeting its service goals.

9.1 Operating Budgets

During the review of the operating budgets, it was noted that all key account operating sections are identified and tracked, such as:

Operating Budget Line Items:

- Staffing related costs
- Training
- Personal Protective Equipment
- Fire Prevention and related Fire Safety Education
- Vehicle and equipment maintenance
- Station maintenance

The operating budgets show the approved annual budget along with year-to-date totals.

9.2 Capital Budgets

Both municipalities have provided capital funds in support of the ongoing needs of the fire department. The funding supplied in 2021 enabled the fire department to purchase pumpers, cars, portable pumps, self-contained breathing apparatus, outboard motor, TIC, tools, clothing, pagers & radios, and other equipment.

To plan and ensure capital funding is secured for the future, it is recommended that the fire chief develop a full life-cycle replacement plan that shows all apparatus, equipment, and facilities for capturing into the municipal capital projects.

9.3 Reserve Funds

It is important to ensure that adequate annual contributions for small equipment, along with apparatus repairs, and contributions for future infrastructure (fire stations) are identified. If any

shortfalls are determined, the fire chief should establish what effect this will have on operations and bring forward any recommendations (for funding adjustments), if necessary.

9.4 Cost Recovery Mechanisms

User Fees & Charges

Lake of Bays

The Township of Lake of Bays has established a by-law for fees and charges being 2020-118 which came into effect January 1, 2021. The fire department specific fees and charges are contained within Schedule E.

A review of the fees and charges show to be in line with other jurisdictions in dollar value. With ever increasing financial constraints imposed on municipal governments capturing fees and charges where able can provide additional income to offset the increased expenses. Such recoverable expenses could be the fixing of damaged vehicles due to inadequate road maintenance and the cost recovery for expenses incurred in the extinguishment of fire.

Huntsville

The Town of Huntsville has established a by-law for fees and charges being #2020-100 which came into effect December 14, 2020. The fire department specific fees and charges are contained within Schedule L.

A review of the fees and charges show to be in line with other jurisdictions in dollar value. With ever increasing financial constraints imposed on municipal governments capturing fees and charges where able can provide additional income to offset the increased expenses. Such recoverable expenses could be the fixing of damaged vehicles due to inadequate road maintenance and the cost recovery for expenses incurred in the extinguishment of fire.

Recommendation(s)

Rec #	Responsibility	Recommendation	Suggested Timeline
36	HLBFD	The fire chief to develop a full life-cycle replacement plan that shows all apparatus, equipment, and facilities for capturing into the municipal capital projects.	Short-term (1 – 3 years)
37	Both Communities	Review of potential recoverable expenses be conducted, and the User Fees & Charges be amended to reflect the same. Examples could be the fixing of damaged vehicles due to inadequate road maintenance and the cost recovery for expenses incurred in the extinguishment of fire.	Short-term (1 – 3 years)

SECTION 10

Review of Previous Master Fire Service Review

10.1 Outstanding Previous Recommendations

SECTION 10: REVIEW OF PREVIOUS FIRE SERVICE REVIEW

The previous Fire Service Review (FSR) was conducted in August 2011. (Ref: Town of Huntsville, Township of Lake of Bays Fire Services Review Final Report, Project # 111-22361-00, Cyril Hare & Associates Inc.) The previous FSR provided guidance for the development of the two fire departments to work collectively under one administration. The result is what is seen today with the establishment of the HLBFD.

In preparation for the 2022 FMP, EM&T had requested a listing and status of the pervious FSR recommendations. No updates were provided. Therefore, it is recommended that the fire chief review these previous recommendations to determine what has been completed, and which should still be accomplished and work forward to complete them.

10.1 Outstanding Previous Recommendations

TABLE #15: Previous Recommendations

Category	Outstanding Recommendations
ADMINISTRATION, ORGANIZATION & STAFFING	7. It is recommended that an advertisement for part time firefighters be included in the annual mail out of the municipal tax letter that are mailed to every homeowner and business in both municipalities.
	8. It is recommended that the Fire Department Standard Operating Guidelines be reviewed and approved on an annual basis to ensure they are current in all respects
	9. It is recommended that the Incident Command System be reviewed updated and delivered in a training program to all members of the two Fire Departments.
	10. It is recommended that a Pre-Incident Plan program be introduced into the fire department starting with the Hospital and Nursing Homes or senior's residences. The Pre-Incident Plan program should eventually include all of the high and medium fire risks in both municipalities.
VEHICLE AND EQUIPMENT MAINTENANCE	11. It is recommended that 2 additional SCBA be provided in Stations 20, 30 and 50.
	12. It is recommended that the Fire Departments continue to use standard specification for all types of emergency vehicles.

Category	Outstanding Recommendations
	13. It is recommended that all vehicle and equipment specifications meet NFPA and ULC standards.
	14. It is recommended that all vehicles be maintained in compliance with the standard NFPA 1911.
	15. It is recommended that the use of standard specifications for tools be continued (SCBA, foam, nozzles, hose, etc.).
	16. It is recommended that a replacement program based on a 20-year life in front line service and a 5-year life in reserve service be established for Huntsville and Lake of Bays fire vehicles.
	20. It is recommended that each department have at least one rescue vehicle equipped with a breathing air cascade and fill station, spare SCBA bottle storage, a generator and lighting system.
	21. It is recommended that new pumpers be equipped with a bumper mounted 150 mm (6 in) front suction and 45 mm (1 ¾ in.) trash line.
	23. It is recommended that thermal imaging cameras be provided for every pumper and eventually every rescue. Wherever there is a requirement to have firefighters enter a burning building, there should be a minimum of 2 TIC‟s on scene. One for the entry team and one for the Rapid Intervention Team.
	25. It is recommended that the SCBA compressor at the Huntsville Fire Station 1 be connected to emergency power.
	26. It is recommended that all new SCBA be equipped with Universal RIT Connections.
	27. It is recommended that 2 additional SCBA be provided in Stations, 20, 30 and 50.
	28. It is recommended that reserve funds be established and funded annually for the replacement of vehicles and equipment.
COMMUNICATIONS	29. It is recommended that the fire chief raise the question of a county wide radio system with his colleagues in the county fire chief s meeting.
	31. It is recommended that the fire chief investigate the opportunities for receiving information from the CAD system to the responding vehicles such as nearest water supply and or hazardous material being present.

Category	Outstanding Recommendations
TRAINING	34. It is recommended that the annual training hours in Huntsville be increased to a minimum of 48 hrs or twice a month.
	36. It is recommended that an officers training course be developed by the training officer for delivery on an annual basis.
	37. It is recommended that following the review and update of the SOG on Incident Command, the subject be delivered in a training course for all members of both departments.
	38. It is recommended that all training nights include a period for testing of the members on the subjects they are being trained in. The FF's and the training officer of that training sign the record off the results of the testing which must be retained in the fire department training files for each individual member of the Fire Department.
	39. It is recommended that the corporate HR policies of equal opportunity and discrimination are applied during the selection process and in dealing with the part time employees.
	40. It is recommended that all recruits who commence training with the departments are supplied with their personal copy of the IFSTA Essential Manual.
	42. It is recommended that further study be undertaken to determine the interests of the County Fire Departments in participating in the construction of identified training facilities on the Port Sydney site and the purchase of a portable flash over unit for the County.
WATER SUPPLIES FOR FIREFIGHTING	43. It is recommended that the proposed water main replacement program for the Hidden Valley area be carried out as funding permits.
	44. It is recommended that the fire hydrants in Huntsville and Lake of Bays be colour coded in compliance with the Ontario Fire Code.
	45. It is recommended that water supply pre-plans be prepared for the urban and rural areas of Huntsville and Lake of Bays and for the large fire risks.
	46. It is recommended that a survey of buildings required by the Building Code to have a water supply adequate for firefighting be

Category	Outstanding Recommendations
	carried out and those properties that have deficiencies be required to take corrective measures.
	47. It is recommended that a survey be conducted of the municipalities to identify all static and impounded water sources. A program should be instituted to install dry hydrants at strategic locations to facilitate water drafting by the fire departments.
	48. It is recommended that impounded water supplies (ponds, cisterns, or reservoirs) be provided in areas such as residential subdivisions that are not protected with water mains and fire hydrants.
	49. It is recommended that the current water supply training program be revised to include the operation of the municipal water systems and the use of alternate water supplies.
	50. It is recommended that the 100 mm (4 in) hose load on each pumping vehicle be increased to 300 m (1000 ft).
	51. It is recommended that the hose fittings for dry hydrants be standardized as 150 mm (6 in) male thread connections and that all pumping vehicles carry a double female adapter that will connect the vehicle's hard suction hose to the 150 mm male connections on the dry hydrants.
	52. It is recommended that a maintenance program be developed for the inspection and maintenance of dry hydrants.
	53. It is recommended that a superior tanker shuttle certification for the areas protected by the Huntsville Fire Department, be conducted with the Fire Underwriters Survey.
FIRE PREVENTION & PUBLIC EDUCATION	55. It is recommended that a job description with minimum qualifications based upon the Ontario Fire Service Standards for fire prevention officer s and firefighters be developed for the FPO.
	57. It is further recommended that a second fulltime FPO be hired in 2013.
	59. It is recommended that the volunteer firefighters participate in public education events. The volunteer firefighters should receive training in the delivery of fire safety programs.

Category	Outstanding Recommendations
	60. It is recommended that A Fire Safety Plans Box Bylaw be drafted and presented to council.
	62. It is recommended that an elementary school delivered fire safety program such as NFPA's Risk Watch be implemented with the school boards. This should be a District initiative and coordinated by the local Ontario Association of Fire Chiefs Zone Chapter.
	63. It is recommended that a Home/Cottage Fire Safety Program be developed and delivered by the volunteer firefighting crews at public events.
	64. It is recommended that a consolidated property database be developed for use by the FPO and other municipal departments.
FINANCIAL	69. It is recommended that the Town and Township review the suitability of their reserve funds to accommodate capital costs for replacement of equipment and facilities.

Recommendation(s)

Rec #	Responsibility	Recommendation	Suggested Timeline
38	HLBFD	The fire chief should review the previous Fire Service Review recommendations to determine which recommendations should still be actioned and completed.	Immediate (0 – 1 years)

SECTION 11

Recommendations, Timelines, & Associated Costs

SECTION 11:RECOMMENDATIONS, TIMELINES, ASSOCIATED COSTS

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline
1	G, I	**HLBFD -** The present Establishing & Regulating By-laws be reviewed annually with presentation to newly sitting Councils every four years at the commencement of the terms of council. This will allow a new Council to understand the full scope of the Fire Department's level of service and commitments related to the Fire Department.	Staff time (unless new programs/by-laws are approved)	Short-term (1 – 3 years) and ongoing
2	E, F	**Both Municipalities -** Review the implementation of a non-recreational burn permit system to control fires of larger size (both municipalities).	Staff time	Short-term (1 – 3 years) and ongoing
3	E, F	**Lake of Bays** - Separate the fireworks restrictions from the Noise By-Law and place them into their own Fireworks By-Law similar in fashion to the Town of Huntsville.	Staff time	Short-term (1 – 3 years) and ongoing
4	E, F	**Both Municipalities** - Open Air Burning By-Laws: • Work with the local MNRF Office, Municipal Clerk, and Legal Counsel to ensure wording in the Open-Air Burning By-Law reflects what is needed for the municipality as authorized from the *Municipal Act, FPPA,* and *FFPA*. • Review the set fine values of the Open-Air Burning By-Law to	Staff time	Short-term (1 – 3 years) and ongoing

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline
		maximize fines for significant non-compliance.		
5	E, F	**HLBFD** continue to work in conjunction with developers in promoting the advantages of installing residential fire sprinklers.	Staff time	Short-term (1 – 3 years) and ongoing
6	G, I, E, F	**HLBFD** - contact FUS to complete a community survey. • The Fire Management Team regularly access the FUS Municipal Fire Portal to communicate improvements and/or updates. This data could relate to new fire apparatus replacements, new fire stations, new construction, hydrants in new sectors, etc.	Staff time	Short-term (1 – 3 years) and ongoing
7	I	**HLBFD -** It is recommended that an SOG Committee be established with representation of all Divisions of the Department. It is further recommended that the Department's SOGs be reviewed regularly.	Staff time	Short-term (1 – 3 years) and ongoing
8	I	**HLBFD -** Implement the utilization of an additional administration position of Assistant Deputy Fire Chief or a secondment opportunity from the current staff complement to act in a role that supports the Fire Chief and Deputy Fire Chief.	Staff time (if done as a secondment) FTE potential cost approx. $120,000+ benefits	Mid-term (4 – 6 years)
9	I	**HLBFD -** Develop a plan on what can be accomplished with the Department's present Fire Prevention staffing complement, along with presenting options for increasing inspection	Staff time (unless additional FPO are approved.	Immediate (0 – 1 years)

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline
		frequencies through utilization of trained and qualified Volunteer fire officers and/or an additional full-time fire prevention personnel.	FTE potential cost approx. $110,000+)	
10	I, F	**HLBFD -** Review and revise the Training Officer's job description in conjunction with Human Resources and that an annual plan be developed, implemented, and assessed. • Consider the use of trained and qualified Volunteer firefighters/officers to assist with delivery of training programs.	Staff time	Immediate (0 – 1 years)
11	I	**HLBFD -** A review of all staff positions and job descriptions, including officer qualifications, be clearly identified and that a more formal promotional process be implemented that is in conjunction with corporate HR policies and process.	Staff time	Short-term (1 – 3 years) and ongoing
12	I, F, G	**HLBFD -** Evaluation and review of training facility/RTC requirements which include policies and procedures, funding (capital and operating), staff, equipment, vehicle resourcing, and HLBFD training priorities and needs. • Suspend further operations until such time as a clear, funded, business case can be developed, reviewed, and approved in collaboration with corporate finance staff.	Staff time; if utilize 3rd-party, approx. $30,000	Immediate (0 – 1 years)
13	I	**HLBFD** - Train members of the department to the awareness level for	$10,000 - $15,000	Short-term (1 – 3 years) and ongoing

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline
		all technical rescues and HAZMAT responses.		
14	I, F	**HLBFD** - fire dispatch agreements with Barrie Fire & Emergency Services include references to NFPA 1021 and 1061.	Staff time	Short-term (1 – 3 years) and ongoing
15	I, E	**HLBFD** - to build upon its present pre-planning program to ensure they have up to date information on any high-risk facilities within the communities.	Staff Time	Short-term (1 – 3 years) and ongoing
16	I, F	**HLBFD -** Invest in decontamination equipment and develop the appropriate policies and SOGs in performing decontamination of firefighters at the scene of a fire.	$3,000 – $8,000 for equipment, plus staff time	Immediate (0 – 1 years)
17	I, F	**HLBFD -** Develop a formal health and wellness program that includes all facets of health and wellness (related to fitness and mental health).	Staff time	Immediate (0 – 1 years) ongoing
18	F	**Township of Lake of Bays -** review opportunities to purchase a used apparatus versus a new one.	Staff time	Short-term (1 – 3 years) and ongoing
19	F, E, I	**Township of Lake of Bays** - The rescues at LOB Station 2 & 3 be liquidated and the municipality purchase used tankers in their place. • There is the option of LOB repurposing one of the current rescue vehicles as a rehabilitation/ decontamination unit.	Staff time plus cost of used tankers of approx. $300,000 for two. Repurposing $10,000 - $15,000	Short-term (1 – 3 years) and ongoing

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline
20	F, E	Rescue 481 be replaced with a four-wheel drive rapid attack vehicle with a pump capacity of 5,000 l/min (1,050 gpm) output.	$200,000	Short-term (1 – 3 years) and ongoing
21	I, F	**Town of Huntsville/HLBFD** - Aerial device in Huntsville should receive an annual inspection and testing in accordance with manufacturers and NFPA standards and recommendations.	$3,000 – $5,000	Immediate (0 – 1 years) and ongoing
22	I, F	**HLBFD** - continue to establish an asset management program for input of new equipment, record testing and maintenance which includes an appropriate computer program.	Staff time	Immediate (0 – 1 years)
23	E	**HLBFD** - obtain and maintain their Superior Tanker Shuttle Accreditation for both municipalities.	$3,000 - $5,000	Short-term (1 – 3 years) and ongoing
24	I, E,	**HLBFD** – The fire department should engage the District of Muskoka in a dialogue about bring the hydrant colour coding in compliance with the standard	Staff Time	Short-term (1 – 3 years) and ongoing
25	I, E, F	**Town of Huntsville** - Install a proper-sized, permanent, back-up generator at the Huntsville municipal offices for primary EOC power.	$50,000 - $100,000	Short-term (1 – 3 years)
26	I	**Township of Lake of Bays** - Emergency Operation Center and Emergency Response Plan to transition to IMS.	Staff time	Short-term (1 – 3 years)
27	G, I, F	**Both Communities** - CEMCs collaborate to:	Staff time	Short-term (1 – 3 years) and ongoing

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline
		• joint exercise and Council reporting of EM Programming checklist and initiatives. • prepare a three-to-five-year schedule for both municipalities that should identify EOC activation orientation, training, annual tabletop, and operations-based exercises. • CEMCs review partnership opportunities in the delivery of an ASHER program to the community.		
28	I, F	**HLBFD** - Being that a review and updated Provincial Mutual Aid Plan is scheduled, it is recommended that HLBFD work with the other Muskoka Fire Departments in ensuring the Muskoka Mutual Aid Plan is up to date and new municipal by-laws are enacted through respective Councils.	Staff time	Short-term (1 – 3 years)
29	G	**HLBFD** - An Automatic Aid Agreement be maintained under an updated agreement. • It is further recommended that the fee schedule be reviewed and updated. This could include the set retainer fee and then a user fee with Lake of Bays retaining all billing rights for cost recovery.	Staff time	Short-term (1 – 3 years)
30	G	**HLBFD** - It is recommended that the Fire Department Administration Services Agreement between the Town of Huntsville and the Township of Lake of Bays be reviewed, and any cost sharing updates be established based	Staff time	Short-term (1 – 3 years)

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline
		on needs and circumstances from year to year.		
31	E, F	**Both Communities** - As the community grows so does the need for Fire Department services. This increased need adds pressure to the current staffing model. It is therefore recommended that a process for reviewing and approving additional staffing be included within an updated agreement to ensure service levels are maintained to the growing communities in the future.	Staff time	Short-term (1 – 3 years) and ongoing
32	E, F	**HLBFD** - It is recommended that for the Fire Dispatch Agreement that wording be included to allow for both parties to agree with the population figures. • Further, a set process for the Fire Chief to work with municipal partners be established to determine annual population and ten-year forecast. This would allow appropriate budgeting for service for current and ongoing years.	Staff time (unless new agreement formula creates additional costs/ savings)	Short-term (1 – 3 years)
33	E, F	**HLBFD** - Within the First Aid Agreement for Tiered Medical Responses, it is recommended that a determination of the level of training, if greater than First Aid, should be established and the program should be outlined within the agreement.	Staff time	Short-term (1 – 3 years)
34	E, F	**HLBFD** - The Municipal Forest Fire Management Agreement be updated.	Staff time	Short-term (1 – 3 years)

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline
35	I	**Both Communities** – Should consider the option of creating a Joint fire Services Board.	Staff Time	Short-term (1 – 3 years)
36	I, F	**HLBFD** - The Fire Chief develop a full life-cycle replacement plan that shows all apparatus, equipment, and facilities for capturing into the municipal capital projects.	Staff time	Short-term (1 – 3 years)
37	I, F	**Both Communities** - Review of potential recoverable expenses be conducted, and the User Fees & Charges be amended to reflect the same. • Examples could be the fixing of damaged vehicles due to inadequate road maintenance and the cost recovery for expenses incurred in the extinguishment of fire.	Staff time	Short-term (1 – 3 years)
38	I, F	**HLBFD** - The Fire Chief should review the previous Fire Service Review recommendations to determine which recommendations should still be actioned and completed.	Staff time (unless new programs are required)	Immediate (0 – 1 years)

APPENDICES

Appendix A: Five-Step Staffing Process

Appendix B: Fire Underwriters Survey

Technical Document on Elevated Devices

Appendix C: Call & Response Data for 2018

Appendix D: Future Fire Station

Considerations

SECTION 12: APPENDICES

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, taking into account 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 capacity; 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 capacity

(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 – 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).

Fire Underwriters Survey™

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):

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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.

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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.

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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

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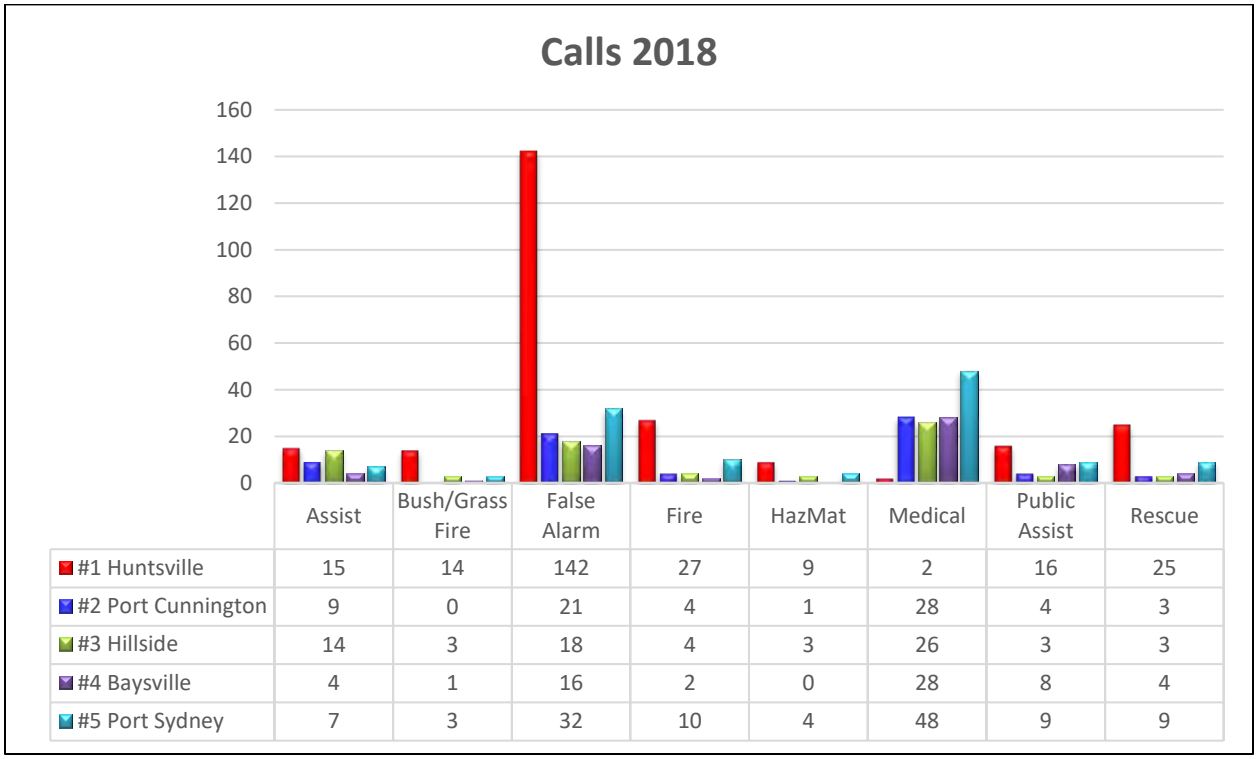
Western region 1-877-255-5240
Central region 1-800-268-8080
Eastern region 1-800-263-5361

fus@optaintel.ca
fireunderwriters.ca
optaintel.ca

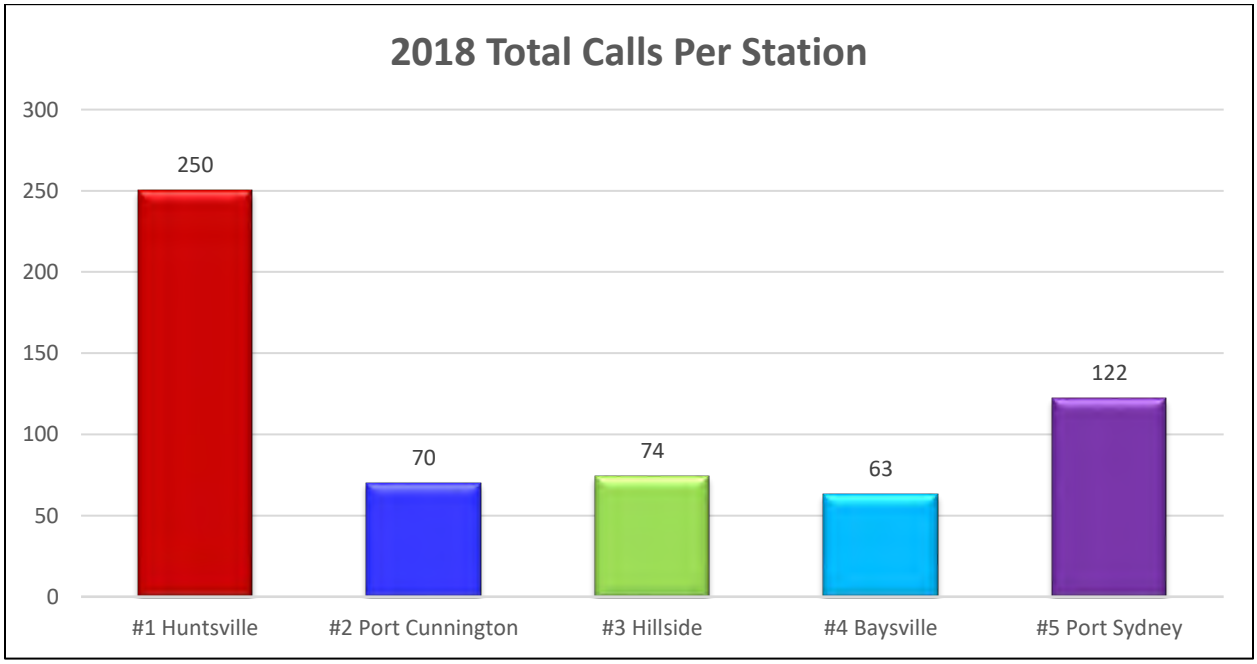
Appendix C – Call and Response Data for 2018

Yearly Comparisons of All Calls

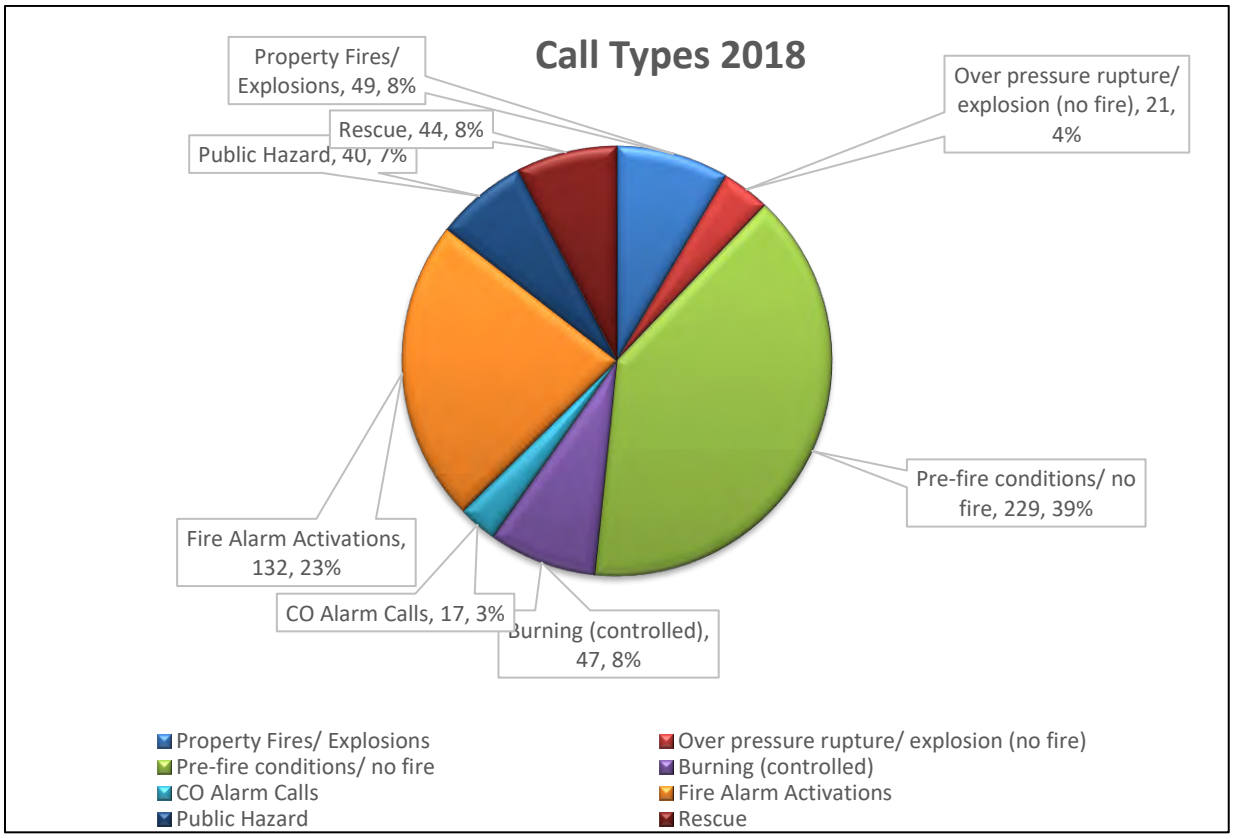


	Assist	Bush/Grass Fire	False Alarm	Fire	HazMat	Medical	Public Assist	Rescue
#1 Huntsville	15	14	142	27	9	2	16	25
#2 Port Cunnington	9	0	21	4	1	28	4	3
#3 Hillside	14	3	18	4	3	26	3	3
#4 Baysville	4	1	16	2	0	28	8	4
#5 Port Sydney	7	3	32	10	4	48	9	9

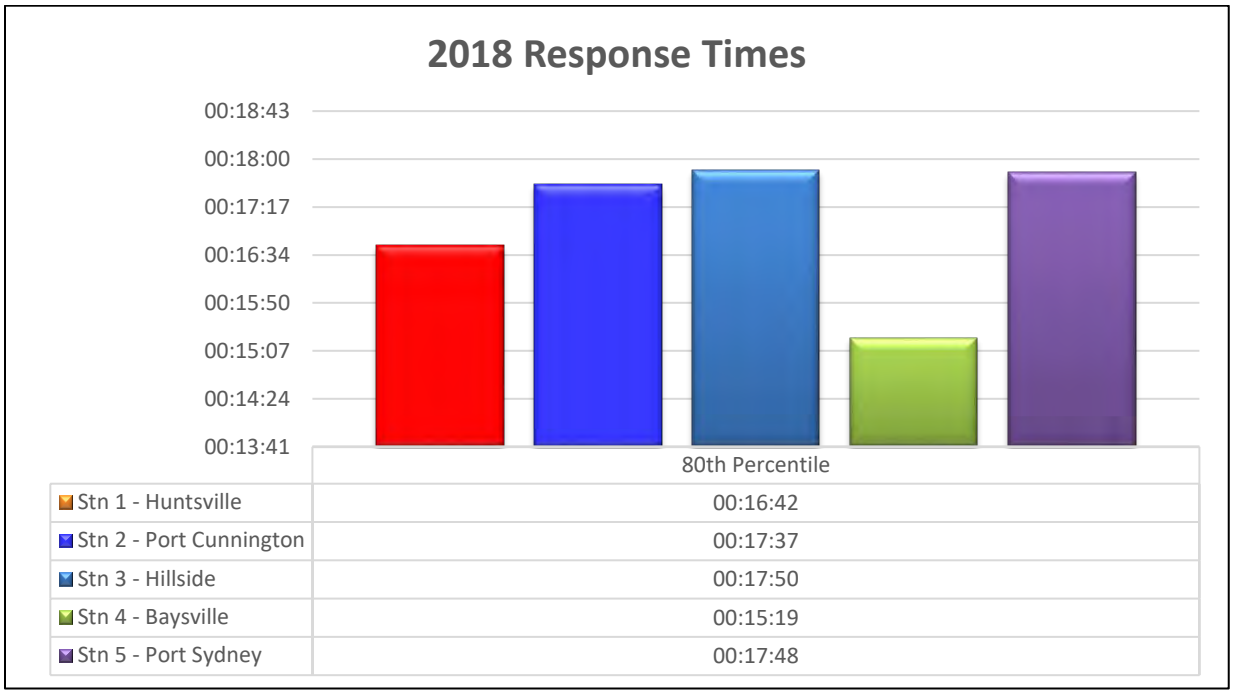
Total Calls Per Station



Call Types

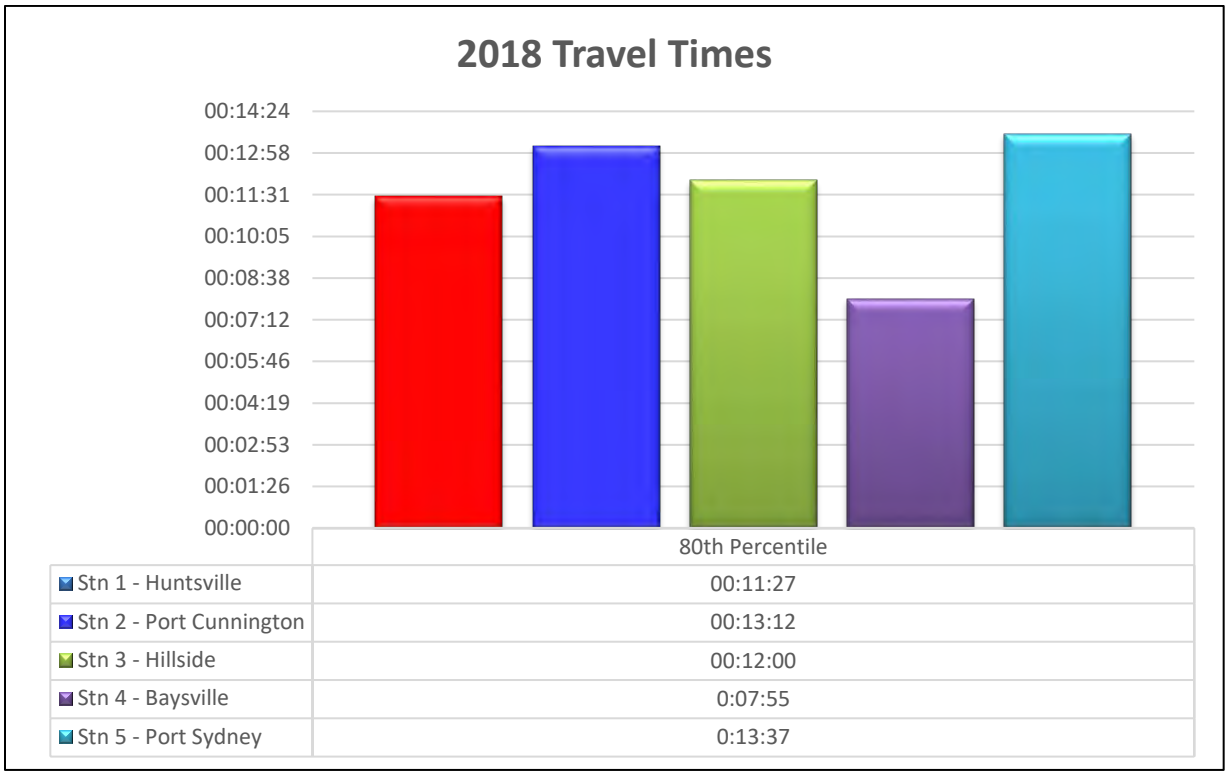


Response Times



	80th Percentile
Stn 1 - Huntsville	00:16:42
Stn 2 - Port Cunnington	00:17:37
Stn 3 - Hillside	00:17:50
Stn 4 - Baysville	00:15:19
Stn 5 - Port Sydney	00:17:48

Travel Times



	80th Percentile
Stn 1 - Huntsville	00:11:27
Stn 2 - Port Cunnington	00:13:12
Stn 3 - Hillside	00:12:00
Stn 4 - Baysville	0:07:55
Stn 5 - Port Sydney	0:13:37

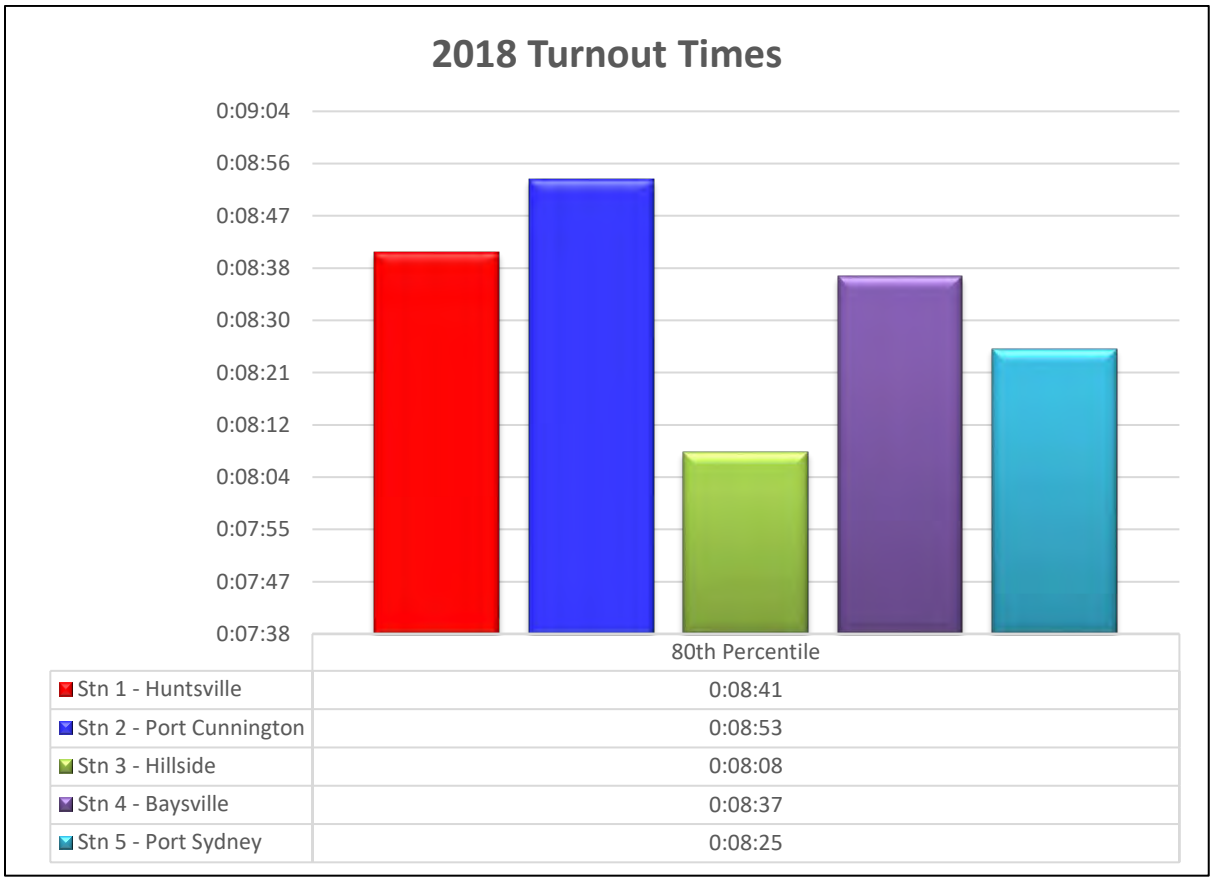
Yearly Comparisons of 80th Percentile Response Times for 2018

Note: The 80th percentile criterion is the recommended practice that is endorsed by the National Fire Protection Association and the Commission on Fire Accreditation International. This data is considered more accurate since it is evaluating the times based on 80 percent of the calls, as opposed to averaging the times at the 50th percentile. For example:

- *8 out of 10 times the fire department arrives on scene in 14 minutes or less. Which means that only 20 percent of the time they are above that 14-minute mark, as opposed to 5 out of 10 times the fire department arrives on scene in 14 minutes or less, which means that 50 percent of the time they are above the targeted minute mark.*
- *Travel Time is the time tracked from when the fire vehicle has left the station until arrival at the incident location.*
- *Response time is the total time from receipt of page (on 9-1-1) to the time the fire vehicle arrives at the incident location.*

Note: Call data displayed in the charts are for emergency responses only.

Turnout Times



	80th Percentile
Stn 1 - Huntsville	0:08:41
Stn 2 - Port Cunnington	0:08:53
Stn 3 - Hillside	0:08:08
Stn 4 - Baysville	0:08:37
Stn 5 - Port Sydney	0:08:25

Appendix D – Future Fire Station Consideration

As noted in the section on fire stations, the Huntsville main fire station is not only witnessing its share of structural needs but is also in a location that has some egress challenges due to the driveway, and/or actual roadway being blocked by the neighbouring trucking company. Although these instances are not an everyday occurrence, there has been situations in which the fire department's response was hindered. Thankfully no loss of life occurred, nor was there any increase in fire damage due to the delays.

During meetings with the HLBFD senior officers, recommendations were raised relating to future locations for the Huntsville fire station. These recommendations have been included in this document for consideration by the town.

Photos of Trucks Obstructing Egress by the Fire Department:

Trucks blocking the driveway blocking fire department egress – driver left his truck parked here to go to the shipping office.

Driver drove across lawn of fire station and struck a tree.

Truck loaded and was left for a period of time blocking fire apparatus bays.

Truck was left unattended.

Due to these noted incidents, the fire chief, along with town staff, should review parking designations for Payne Drive to ensure congestion does not interfere with emergency response. There does appear to be a need for increased signage to identify the road as being required for emergency access. By-law officers should be encouraged to patrol the area on a regular basis.

Fire Facilities Summary

After reviewing the condition and location of the stations, EM&T would like to make the following recommendations.

1. Until such time as the councils have made decisions on the operation of their fire departments, all stations should be evaluated to ensure compliance with provincial legislation, standards, and regulations. This would include functioning oil separation tanks in the apparatus bays; bunker gear stored in negative pressure rooms; gender neutral washrooms, locker rooms, and showers; barrier free in all aspects; installation of decontamination showers and eye wash stations in the apparatus bays; and discontinued use of fitness equipment in the apparatus bays.
2. Every station lacks safety features such as sensors on the overhead doors to prevent them from closing on an individual or vehicle, red/green lights at the overhead doors to aid the driver in knowing when it is safe to leave, barrier free, and exhaust extractions systems. Some facilities also lack smoke and CO alarms. Stations 2 and 3 should have the Electrical Safety Authority attend to provide guidance on whether the water lines by the electrical panels require shielding or be relocated.

The following are the summations for each fire station followed by recommendations at the end of this section.

Huntsville - Station 1

Its location is not ideal and should be relocated. There are ongoing issues with trucks coming and going from the manufacturing facility next door impeding fire trucks from exiting on numerous occasions. The sight lines upon entering onto Centre Street in both directions are poor and there is the risk of a truck becoming involved in an MVC attempting to enter the street. During the day the entrance to Centre Street is blocked by traffic going towards West Road, the main street through downtown. During the hours students are transported by bus or car to or from one of the two schools in the immediate area, the exit is further blocked by buses and cars.

Many municipalities have partnered with other emergency services and built an emergency hub such as the one just opened in Barrie. Doing so brings the emergency services to one location for public access. The Town of Huntsville should discuss with the District of Muskoka, MPS, and the OPP to review opportunities of entering into an agreement for the building of a joint emergency service hub. This will save a considerable funds with one structure rather than three separate structures. Operational cost savings should also be realized.

There is a development planned for the Hanes Road area near the paramedic station. The town should have discussions with the developer to explore future opportunities of obtaining a large parcel of land. The road infrastructure in the area would permit emergency vehicle quick access to highways 11 and 60 where significant residential and multi-unit developments are in the processes of approvals.

The property where the current fire station is located could be liquidated by the town and those funds put towards the new station.

Map of Area for Proposed New Huntsville Station #1

Lake of Bays - Stations 2 & 3

For the most part, the Lake of Bays fire stations 2 & 3 are identical in size and design with the same amenities and challenges. During the evaluation processes of this report, it was found that the Station 3's roster of firefighters is decreasing; Station 2 was being dispatched to calls at the same time to ensure adequate staffing attended the incident. A future station that would amalgamate the firefighters from both Station 2 & 3 into a new building should be considered. This new station could be located in Dwight. The new fire station could be constructed on property already owned by the township next to the municipal office at 1030 Dwight Beach Road.

The Township should contact both the MPS and OPP to review opportunities of their participation in constructing a small emergency service hub in Dwight.

Baysville - Station 4

This station was built in 1991 and like the other Lake of Bays fire station, has come to the end of its life cycle and should be replaced and relocated. The station does not have amenities required in operating a functional, modern fire station. The apparatus bays are too short to house the larger apparatus; it lacks storage, an emergency generator, and locker rooms; and is not barrier free.

The parking challenges, particularly in the winter with so many activities in the arena next door, has become problematic.

A new station should be built on property already owned by the municipality at 3914 Brunel Road which also serves as the Public Works Yard for the Lake of Bays.

Port Sydney - Station 5

As this station is so new, it does not require any additions or changes of any significance. It is suggested that some sea containers be obtained to store the equipment that is presently placed on the apparatus floor, and these be placed where the training grounds are at the back of the station. Any equipment not of immediate need could be placed in these units.

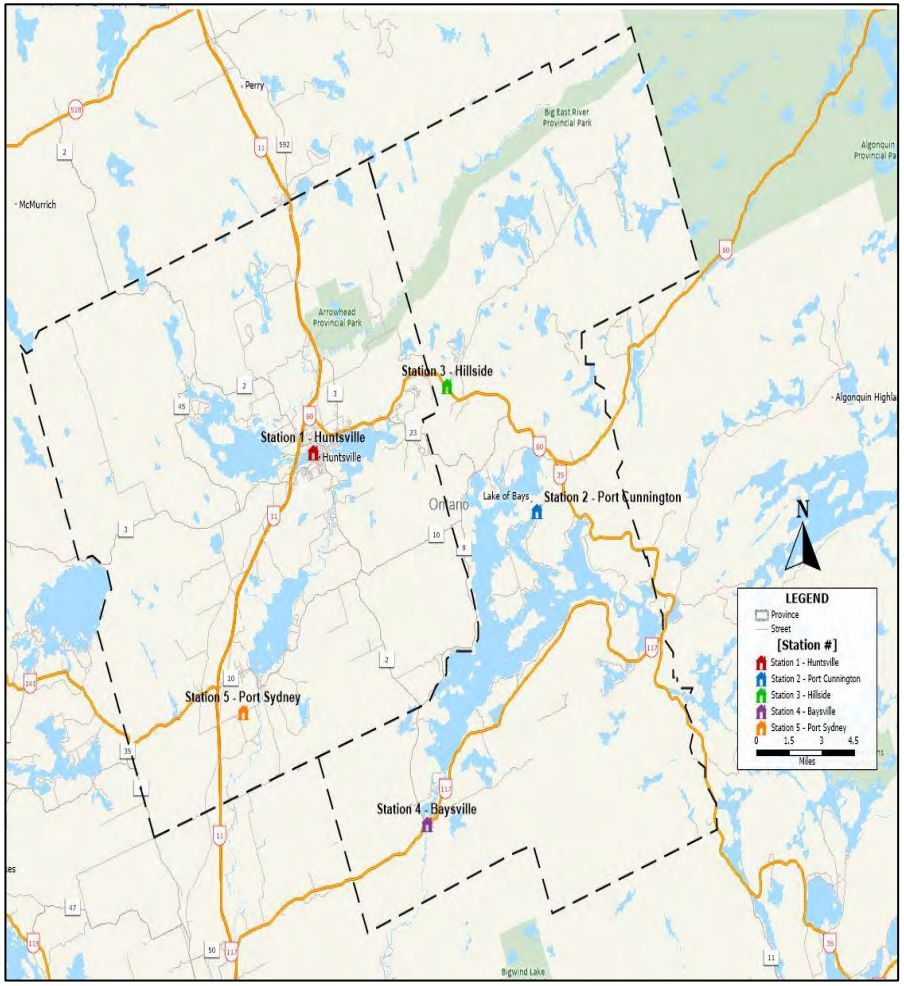
Additional Huntsville Fire Station

With the Lake of Bays potentially amalgamating two of the fire stations and the call volume and new developments occurring in Huntsville, an additional fire station should be considered along the Highway 60 corridor. This station could house an aerial device that also is the front-line pumper with an aerial of between 55 and 75’ in length, and a pumper-tanker with at least a 5,000 l/min pump (1,050 gpm) and a 11,375-liter (2,500-gallon) water tank.

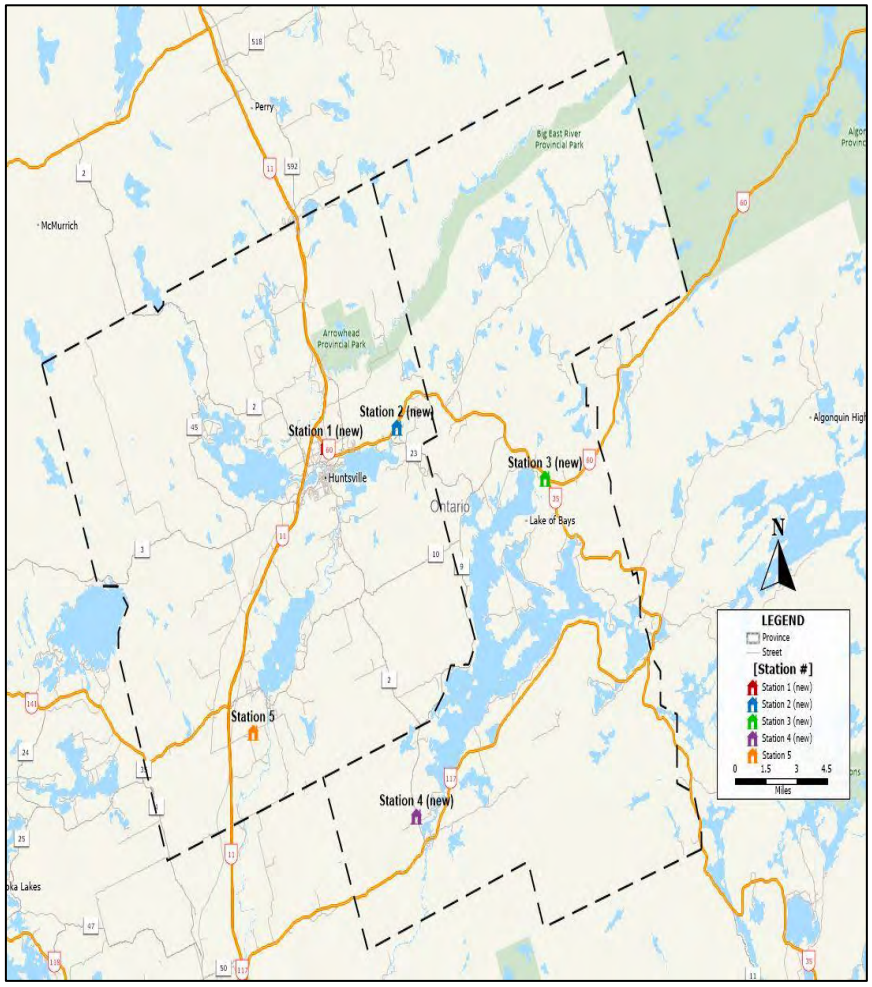
This station would better serve the northeast side of Huntsville but could also cover the void created by the amalgamation of two LOB stations, into a new station in Dwight, by protecting areas to the east of Hillside.

The following maps identify the current locations of the HLBFD and a 10-minute response area and a map of all the new locations of the fire stations including the 10-minute response zones.

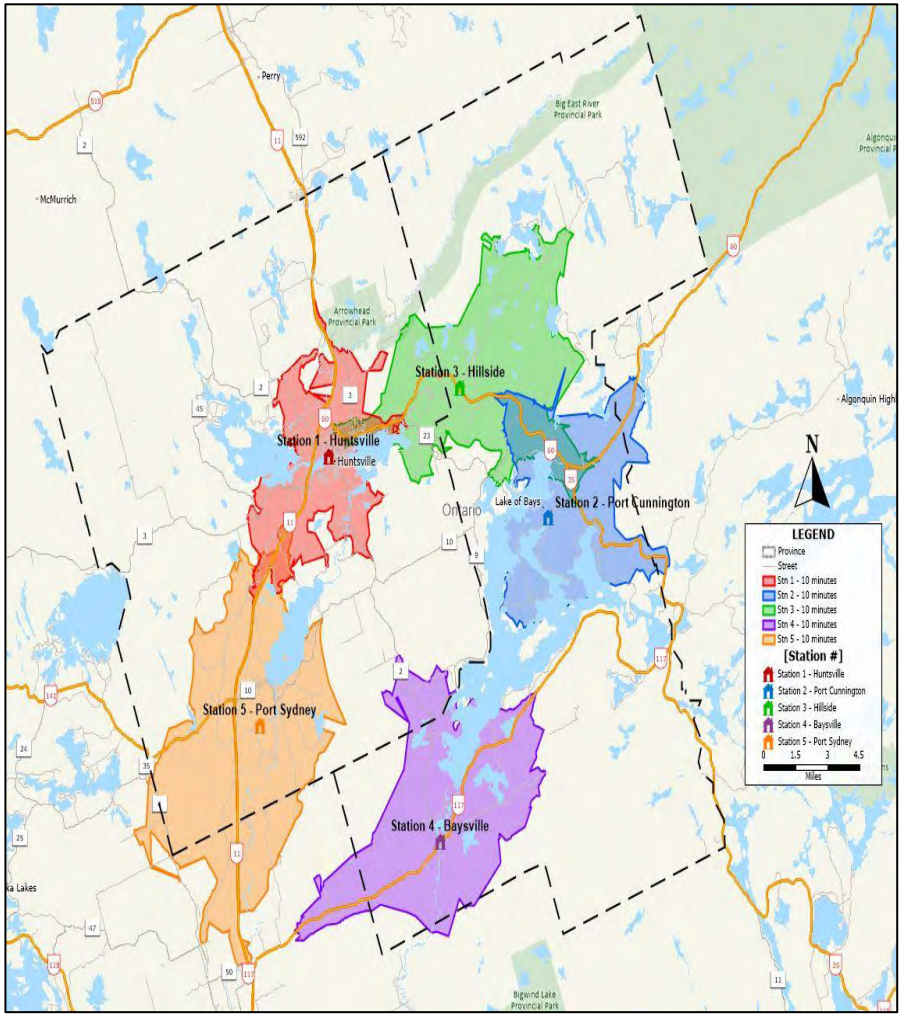
Map of Existing Station Locations



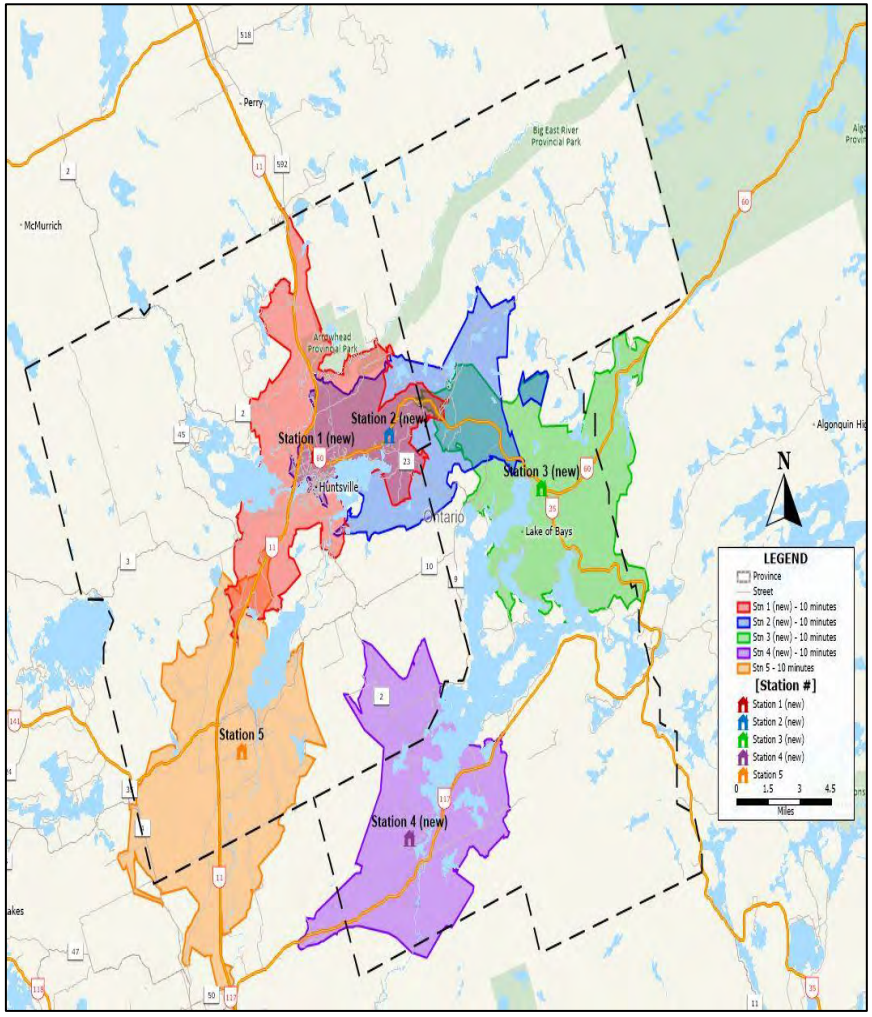
Map of Proposed New Station Locations



Map of 10 Minute Response Time - Current Station Locations



10 Minute Response Time - Proposed New Station Locations



When comparing the 10-minute response zones between the two maps, there is an enhancement of coverage in the areas of where the new stations 1 and 2 would be located, along with enhanced coverage in the new Station 2 – Lake of Bays area.

The following is a summary of future fire station considerations:

a) The current Huntsville Fire Station #1 be relocated on Hanes Road in Huntsville.
b) The Town of Huntsville begin dialogue with the developer that owns land on Hanes Road across from the paramedic station for the purpose of building an emergency service hub.
c) The Town of Huntsville conduct discussions with the OPP and MPS to entertain opportunities of building facilities at the proposed location of an emergency service hub in Huntsville.
d) The Town of Huntsville liquidate the property of the current Station #1, and those funds be put toward the costs of the new facility.
e) The Township of the Lake of Bays build a new fire station on Dwight Beach Road, in Dwight and that the firefighters assigned to stations 2 and 3 be assigned to respond from the new fire station.
f) The Township of Lake of Bays conduct discussions with the OPP and MPS to entertain opportunities of building facilities at the proposed location of an emergency service hub in Dwight.
g) The Township of Lake of Bays liquidate the property that the current stations 2 and 3 are located on, and the proceeds be put towards offsetting the cost of the new Dwight Fire Station.
h) The Township of Lake of Bays build a Station #4 to be located at the Public Works Yard on Brunel Road.
i) The Township of Lake of Bays liquidate the property the current Station # 4 is located on, and the proceeds be put towards offsetting the costs of a new fire station.

Fire Station Future Considerations

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline	Efficiency and/or Cost Saving
Future Consideration #1	E, F, I	**Town of Huntsville** – Due to challenges noted by the Fire Chief, future consideration for the relocation of Station #1 on Hanes Road in Huntsville is being presented. And that with this consideration:	$6 - $10 million	Mid to Long Term (4-10 years)	**Efficiency:** Any fire station location needs further evaluation to ensure the following:

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline	Efficiency and/or Cost Saving
		• The Town of Huntsville begin dialogue with the developer that owns land on Hanes Road across from the paramedic station for the purpose of building of an emergency service hub. • Town of Huntsville liquidate the property the current Station #1 is located at, and those funds be put towards the costs of the new facility. • And that, the Town of Huntsville conduct discussions with OPP and MPS to entertain opportunities of building facilities at the proposed location of an emergency service hub in Huntsville.			• Actual benefits of a station closing and relocation • Costing for this initiative, along with any revenues based on the sale of the lands • Possible partnerships to be gained through this initiative, and possible joint savings and/or revenue generation.
Future Consideration #2	F, I, E	**Township of Lake of Bays** - build a new fire station on Dwight Beach Road in Dwight and that the firefighters assigned to Station 2 & 3 be assigned to respond from the new fire station.	$2.5 - $3.5 million	Mid to Long Term (4-10 years)	**Efficiency:** Any fire station location or cohabitation partnership needs further evaluation to ensure the following:

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline	Efficiency and/or Cost Saving
		- Township of LOB liquidate the property that the current Stations 2 & 3 are located on, and the proceeds be put towards offsetting the cost of the new Dwight Station. - And that the Township of LOB conduct discussions with the OPP and MPS to entertain opportunities of building facilities at the proposed location of an emergency service hub in Dwight.			• Actual benefits of a station closing and relocation • Costing for this initiative, along with any revenues based on the sale of the lands Possible partnerships to be gained through this initiative, and possible joint savings and/or revenue generation.
Future Consideration #3	F, I, E	**Township of Lake of Bays** - build a new Station 4, located at the Public Works Yard on Brunel Road. • Township of LOB liquidate the property the current Station 4 is located on, and the proceeds be put towards offsetting the costs of a new fire station.	$2.5 - $3.5 million	Mid to Long Term (4-10 years)	**Efficiency:** Any fire station location or cohabitation partnership needs further evaluation to ensure the following: • Actual benefits of a station closing and relocation • Costing for this initiative, along with any revenues based

Rec #	Efficiencies Categories	Recommendation	Estimated Cost	Suggested Timeline	Efficiency and/or Cost Saving
					on the sale of the lands Possible partnerships to be gained through this initiative, and possible joint savings and/or revenue generation.