

October 2020

Kawartha Lakes Fire Rescue



Master Fire Plan



**Emergency
Management &
Training Inc.**

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Executive Summary

A Master Fire Plan (MFP) is a document that assists an organization in its endeavour towards looking into future needs of a community. To properly conduct an MFP, a full review of past and present services supplied is required, along with assessing the success of the delivery of those services to the community. Once this baseline review has been completed, the next step is to look at anticipated future growth of the community and how this might affect service demands and expectations. The final step is the gap analysis, which is accomplished by comparing the initial baseline review with the anticipated future expectations.

This MFP is based on the City of Kawartha Lakes and its Fire Department. The City consists of a number of growing urban and rural areas. These urban areas are separated from each other by farms, forests, countryside residences, and recreational areas which all add to the overall character of the City.

Currently, Kawartha Lakes is protected by a composite Fire Department that consists of twenty fire stations. The Fire Department responded to 2,619 calls in 2018. These incidents included, but were not limited to, fire-related incidents, medical assist, water/ice rescues, and motor vehicle collisions. Interestingly, these 2,619 calls for service equate to over 4,000 vehicle movements. This is because many of the calls require more than one fire department vehicle to respond to an incident.

To ensure that they are meeting the needs of the community and their staff, the Kawartha Lakes Fire Rescue Service (KLFRS) recognizes that it is necessary to update and maintain an MFP for the intention of providing high-quality fire services to the residents and businesses of the community along with its visitors. With the creation of a new MFP, the City of Kawartha Lakes is evaluating all aspects of its service including the operational costs and capital budgets required to maintain or enhance the fire service.

This MFP for the KLFRS reviews and identifies current and probable community fire risks and needs over the next 10 years and beyond. This will greatly assist KLFRS with future planning relating to staffing and response, fire, and life safety programming, and for asset management.

This review has examined and researched all aspects of KLFRS operations including planning, fire prevention, training and education, communications, apparatus and equipment, maintenance, human resources, station suitability (accommodations) and locations, budgets, and large-scale emergency preparedness.

In addition to our team, the Master Fire Plan was developed with the input and discussions with City staff including the Mayor and Council, CAO, Senior Managers, Fire Chief, Deputy Chief, District Chief, firefighters, fire prevention staff, administrative staff, and the public.

Based on the review conducted by EMT, a total of 18 recommendations have been made. The following list has been organized, based on the recommended timeline implementation. For a more detailed and chronological overview of the recommendations, which include timelines for implementation and an approximate costing for each, please refer to the chart found in Section 12.

EMT would like to thank those who assisted in the development of this MFP document. We would also like to commend the Fire Chief and staff of KLFRS on their dedication to serving the community and the level of service that they have been providing to the community.

Rec #	Recommendation
1	It is recommended that the present Establishing & Regulating By-law be updated and presented to Council for Approval.
2	It is recommended that KLFRS review present and future staffing needs to develop a succession plan that will be based on such things as: • Position to be filled and when it must be filled. • What (if any) are the certification requirements and how long would it take to obtain certification. • What programs can be accomplished in-house or need attendance at the Fire College, Community College or Regional Training Centre.
3	KLFS is commended for its recruitment program that occurs twice a year. None-the-less EMT recommends that the Department continue to actively recruit volunteer firefighters that work rotating shifts or straight nights to improve daytime response numbers by the volunteer firefighters who are not available during daytime hours.
4	It is recommended that a Manager of Emergency Management position be created that will oversee emergency planning and preparedness along with the development and maintenance of the Community Risk Assessment for the City of Kawartha Lakes.
5	It is recommended that the Fire Department meet with local community groups to form a partnership in relation to organizing fire safety and public education events that can be tailored to the unique needs and challenges within the community, along with more use of electronic media for public education awareness. Further, the Fire Department should explore grants as well as other funding opportunities (e.g.

Rec #	Recommendation
	donations from community service groups) for targeted fire safety and public education events. An example of a community group would be the Lion's Club, or a local community/neighbourhood group, etc.
6	It is recommended that KLFRS continue with its five-year staffing plan in which the addition of another District Chief or Platoon Chief position is to be created and incorporated into the staffing and organizational structure of KLFRS.
7	It is recommended that the FPD, through the utilization of the FUS chart as a benchmark, develop a plan on what the division can accomplish with its present staffing compliment, along with options for increasing inspection frequencies (through utilization of fire suppression staff) and ultimately what is needed to meet the FUS benchmarks. This review will help to determine the level of risk within the community, along with the level of fire prevention staffing needs and/or additions to the division. This addition could come in the form of adding the position of Chief Fire Prevention Officer or another Fire Prevention/Public Education Officer.
8	To verify the Training Division is meeting related NFPA (and other) training program recommendations, the Training Officer (or person assigned to monitor training) should identify: - What training programs are required in relation to the services that KLFRS is providing, along with what training programs need to be implemented or enhanced based on the new Provincial regulations - The number of hours that are required to meet each of those training needs - Resources required to accomplish this training - Joint partnerships with bordering fire departments and private organizations that can be entered into to achieve the training requirements identified by the Training Officer/Manager - An annual program outline at the start of each year to be presented to the Fire Chief, with noted goals and expectations, which are measured and reported on in relation to completion success rate at the end of each year
9	It is recommended that KLFRS hire an additional Training Officer position to oversee/coordinate training programs such as the certification of firefighters and officers. This position would assist with the coordination of programs to ensure consistence throughout the Department. A more formal station and/or district training coordinator program to assist with the implementation of training programs and the delivery of them is also recommended.

Rec #	Recommendation
10	To enhance training, it is recommended that KLFRS purchase a Mobile Live Fire Training Unit and place it at the training centre to accommodate training needs of the firefighters.
11	It is recommended that Council support an increase in staffing of the present full-time crews to ensure a minimum response crew of four per fire truck out of the Lindsay Station.
12	It is recommended that continued enhancement of the full-time Fire Officer resources be incorporated into an annual fire prevention program on a more formal basis. To accomplish this, all full-time officers should be trained and certified to at least: • NFPA 1031 – Fire Inspector I • NFPA 1035 – Fire and Life Safety Educator I By having all full-time Officers trained to the noted levels, KLFRS will have a greater number of resources to draw upon in its public fire safety education and inspection programs.
13	The present dispatching agreement with Kawartha Lakes Police Service should be updated to include performance measures as per the NFPA 1221 standard.
14	Recommendations have been identified for some specific fire stations throughout Section 6.
15	It is recommended that consideration be given to either the expansion of Fire Department headquarters to meet the present space demands or a new headquarters be built.
16	The City should look at a gradual implementation plan for the installation of generators at “key” fire stations.
17	It is recommended that the Fire Department purchase another elevated device to replace the unit that was retired. This replacement could be another aerial truck or a tele-squirt unit.

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Acronyms

Immediate	Recommendations that should be addressed urgently due to the legislative or health and safety requirements
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
CAO	Chief Administrative Officer
CEMC	Community Emergency Management Coordinator
CFAI	Commission on Fire Accreditation International
CPSE	Centre for Public Safety Excellence
CRA	Community Risk Assessment
CSA	Canadian Standards Association
EMT	Emergency Management & Training Inc.
EVT	Emergency Vehicle Technician
FESO	Fire and Emergency Services Organization
FPD	Fire Prevention Division
FPO	Fire Prevention Officer
FPPA	Fire Protection and Prevention Act
FUS	Fire Underwriters Survey
HQ	Headquarters
IRM	Integrated Risk Management
KLFRS	Kawartha Lakes Fire Rescue Service
KLPS	Kawartha Lakes Police Service
MFP	Master Fire Plan
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
NIST	National Institute of Standards and Technology
OAFC	Ontario Association of Fire Chiefs
OFC	Ontario Fire College
OFMEM	Ontario Fire Marshal's Office and Emergency Management
OPP	Ontario Provincial Police
PFSG	Public Fire Safety Guidelines
RFP	Request for Proposal
SRA	Simplified Risk Assessment
SWOT	Strengths, Weaknesses, Opportunities, Threats

Overview

As the successful project consultant, Emergency Management and Training Inc. (EMT) has worked with the City of Kawartha Lakes and the Kawartha Lakes Fire Rescue Service in the gathering of data and development of this MFP. EMT would like to thank all staff and the community for their input into this plan.

Review Process and Scope

Emergency Management and Training Inc. (EMT) has based its review process on the City's initial Request for Proposal (RFP) and the response document submitted by EMT.

The noted specific areas (in the RFP) were reviewed by utilizing best practices, current industry standards, and applicable legislation as the foundation for all work undertaken. EMT also used both quantitative and qualitative research methodologies to develop a strong understanding of current and future needs and circumstances of the community, and customer service demands of the public.

The review included, but was not limited to, the following 17 areas in its effort to review the KLFRS and present recommendations for present and future improvements:

1. **Governance** – review and make recommendations regarding applicable municipal, provincial, and federal legislation relative to the Kawartha Lakes Fire Rescue Service.
2. **Emergency Response** – review and make recommendations regarding emergency response practices based on call volume and trends, including types of calls, apparatus deployment, response staffing, resource deployment, automatic and mutual aid agreements, special operations (e.g. HazMat, high angle rescue, confined space, marine, ice/water rescue), and safety.
3. **Training and Education** – research and make recommendations regarding the Training Programs for all members of the Fire Department in all four divisions (Administration, Communications, Prevention, and Suppression).
4. **Fire Prevention** – evaluate and make recommendations regarding the Fire Prevention Program including fire inspections, investigations and enforcement, and public education.
5. **Human Resources** – evaluate and make recommendations regarding Fire Department staffing in all four Divisions (Administration, Communications, Prevention, and Suppression) including volunteer fire fighters. Examine and review recruitment, retention, promotional policy, succession planning, and demographics. This includes review of the applicable job descriptions.

6. **Administration** — review and make recommendations regarding the administration of the fire department, including organization, staffing, policies and procedures, administrative support, record keeping, information management, current and future “information technology” (I.T.) usage/requirements, purchasing, inventory control, public and media relations, and customer service.
7. **Fire Station/Apparatus and Equipment** – examine the fire stations, fire apparatus and major pieces of equipment including the types of vehicles, age, and effectiveness. The provision of fire protection services to other municipalities should be referenced and taken into consideration under the Fire Protection Agreements section.
8. **Maintenance Program** – review the maintenance program of the fire apparatus and equipment on a life cycle basis.
9. **Dispatch and Radio Systems** – review the current dispatch system, paging, and radio systems and make recommendations as required.
10. **Budgets** – review the Fire Department operating budget, capital budget, reserves (equipment, vehicles), and development charges. Examine revenues and potential revenues, including current fees for service and recommended fee structures.
11. **Communications** – review and make recommendations regarding fire department communications systems, including dispatch, paging, telephones, I.T. related equipment and radio systems including mobile radios, portable radios and fixed radio/repeater/antenna infrastructure and future opportunities for the dispatch service.
12. **Emergency Management Program** — review and make recommendations regarding the Department’s involvement in the Community Emergency Management Program.
13. **Community Risk Profile** – review and assess and update as appropriate.
14. **Automatic Aid and Fire Protection Agreements** – review programs in place with other municipalities with respect to best practices and fees for service. Also, consider opportunities that may be available through mutual aid and automatic aid agreements with all neighbouring municipalities as part of the total plan.
15. **Assess stations, staffing and apparatus implications** of NFPA 1710 and 1720, and that of the Ontario Fire Marshal’s Public Fire Safety Guidelines.
16. **Assess and consider growth in population** and employment over the next 5 - 10 - 20 years and the potential impact to service delivery, and operations of the Fire Services Department.
17. Include financial implications and an implementation plan including an implementation timetable.

The review process included a survey of the Council members, the Chief Administrative Officer (CAO), the community, fire administration, and firefighters to seek input regarding the project components.

Based on the previously noted seventeen criteria and through meetings with stakeholders, the consulting team of EMT was able to complete a thorough review of elements that are working well and areas requiring improvement within the KLFRS. During the program review, the consulting team conducted an assessment of staffing, fire facilities, vehicles and related operations. Data provided by the Fire Department was also reviewed in relation to all the previously noted items contained in the City's request for proposal (RFP).

Based on the review of the Fire Department's facilities, equipment, programs and related data, EMT is submitting a total of 19 recommendations (noted in this MFP report) that can be implemented.

Applicable Standards and Guidelines

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

- The Ontario Fire Marshal's Office and Emergency Management (OFMEM) Public Safety Guidelines
- The *Fire Protection and Prevention Act*, and regulations
 - A recent regulation change will require municipalities to complete a full community risk assessment every five years.
- The National Fire Protection Association (NFPA) standards
 - NFPA 1221 addresses recommended standards in relation to communications/dispatching services
 - NFPA 1710 addresses recommended standards for career fire departments
 - NFPA 1720 addresses recommended standards for volunteer fire departments
 - NFPA 1730 addresses recommended standards for fire prevention and education activities
- The Commission on Fire Accreditation International, which is a program that evaluates a fire department based on related NFPA standards, local legislation, and industry best practices (the parent organization for CFAI is the Centre for Public Safety Excellence (CPSE))
- Office of the Fire Marshal and Emergency Management's (OFMEM) Integrated Risk Management program
- The Ontario Health and Safety Act., 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.

Project Consultants

Although several staff at Emergency Management and Training were involved in the collaboration and completion of this Plan, the overall review was conducted by:

- Darryl Culley, President Emergency Management and Training Inc.
- Lyle Quan, Fire & Emergency Services Consultant
- Richard Hayes, Fire & Emergency Services Consultant

Together, the team has amassed a considerable amount of experience in all areas of fire and emergency services program development, review, and training. The EMT team have worked on projects that range from fire service reviews, creation of strategic and Master Fire Plans, and development of emergency response programs for clients.

SECTION 1- Community and Fire Department Overview and Governance

- 1.1 Community Overview
- 1.2 Fire Department Composition
- 1.3 Governance and Establishing &
Regulating By-law

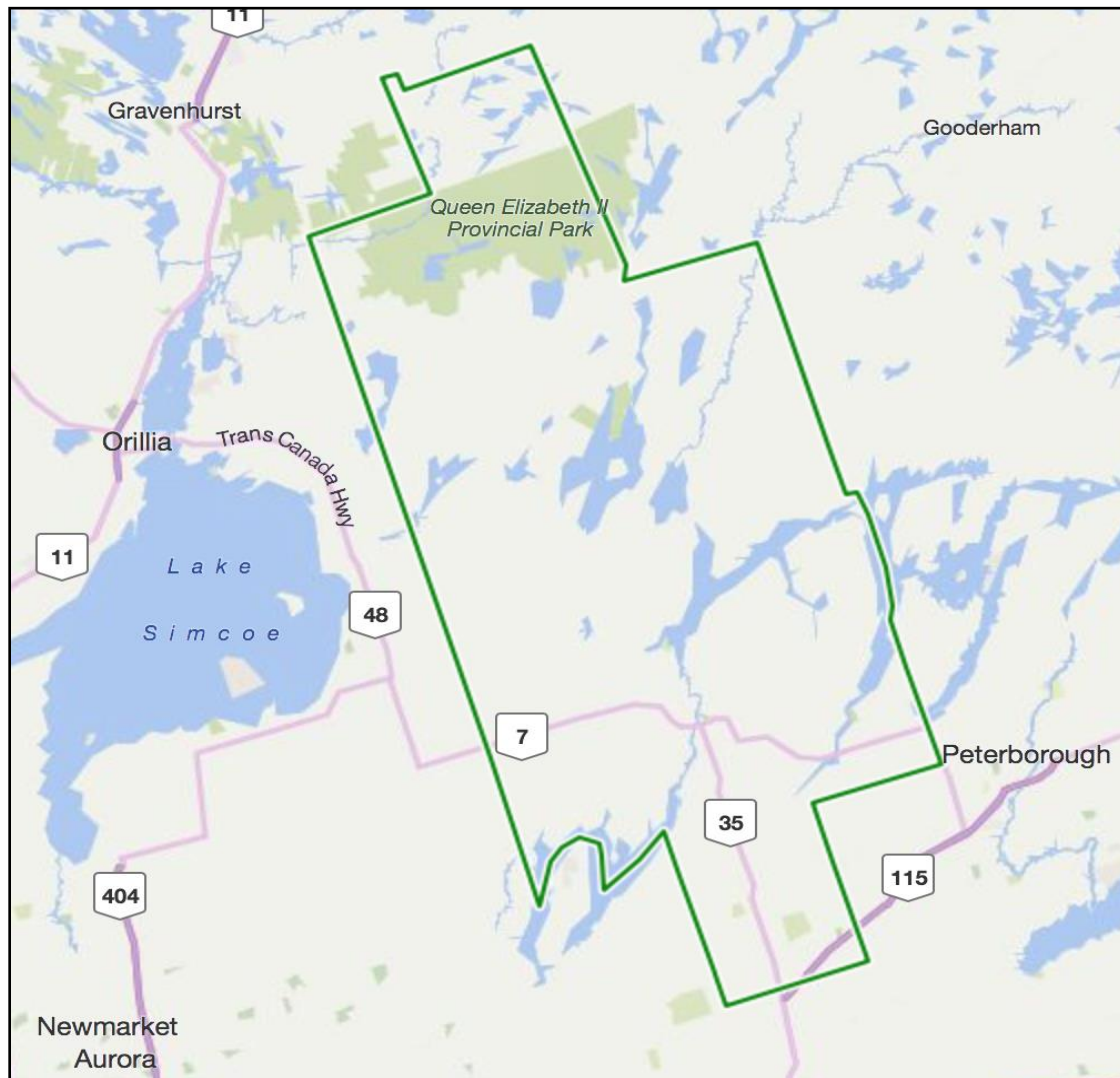
Section 1: Community and Fire Department Overview and Governance

1.1 Community Overview

The City of Kawartha Lakes is a municipality located in central Ontario with a population of 75,423 (2017). It is a municipality legally structured as a single-tier city; however, Kawartha Lakes is the size of a typical Ontario county and is mostly rural. It is the second largest single-tier municipality in Ontario by land area (after Greater Sudbury). The main population centres are the communities of Bobcaygeon, Fenelon Falls, Lindsay, Omemee and Woodville.

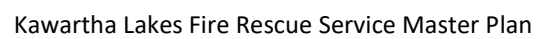
Kawartha Lakes is located just 90 minutes northeast of Toronto and, because of its location, is home to more than 75,000 permanent and 30,000 seasonal residents. Nearly 1.4 million people visit Kawartha Lakes each year seeking the cottage lifestyle made possible by the 250 lakes and rivers.

Figure 1: Location of Kawartha Lakes in Relation to Surrounding Communities



The City consists of several growing urban and rural communities, separated from each other by farms, forests, countryside residences and recreational areas which all add to the overall character of the City. The communities are protected by twenty fire stations, locations of which are noted on the following map.

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1.1 Community Growth

It is anticipated that by 2031, the population will grow from 75,000 to 100,000 persons. This population growth will be allocated throughout the City's urban and suburban areas and will continue to approximately 107,000 persons by 2041. This type of growth will put a strain on KLFRS in its efforts to meet the rise in call volumes that will most definitely occur as the population and traffic flows increase. As such, this document contains information and related recommendations for implementation that will allow KLFRS to continue to meet the future demands that come with the anticipated population growth.

Table 1: Population Data

	2001	2006	2011	2016	2021	2026	2031
Population	71,956	77,543	79,526	84,465	91,302	96,411	100,000
Employment	20,000	23,877	24,036	24,765	25,528	26,272	27,000
Households	26,690	29,505	31,090	33,841	37,439	40,364	42,516
Source: Watson & Associates Economists Ltd., December 2009							

Retrieved from Kawartha Lakes Website (December 2017)

1.2 Fire Department Composition

The Kawartha Lakes Fire Rescue Service covers an area of approximately 3,059 square kilometres and serves a present population of approximately 75,000. KLFRS responds to an average of 2,400 to over 2,600 calls per year.

Full-time administration and support staff include:

- Fire Chief
- Two Deputy Chiefs
- A Platoon Chief
- A District Chief
- An Executive Assistant
- Two Administrative Assistants
- A Fire Prevention Division consisting of a Captain and three Fire Prevention/Public Educators
- Emergency Vehicle Technician

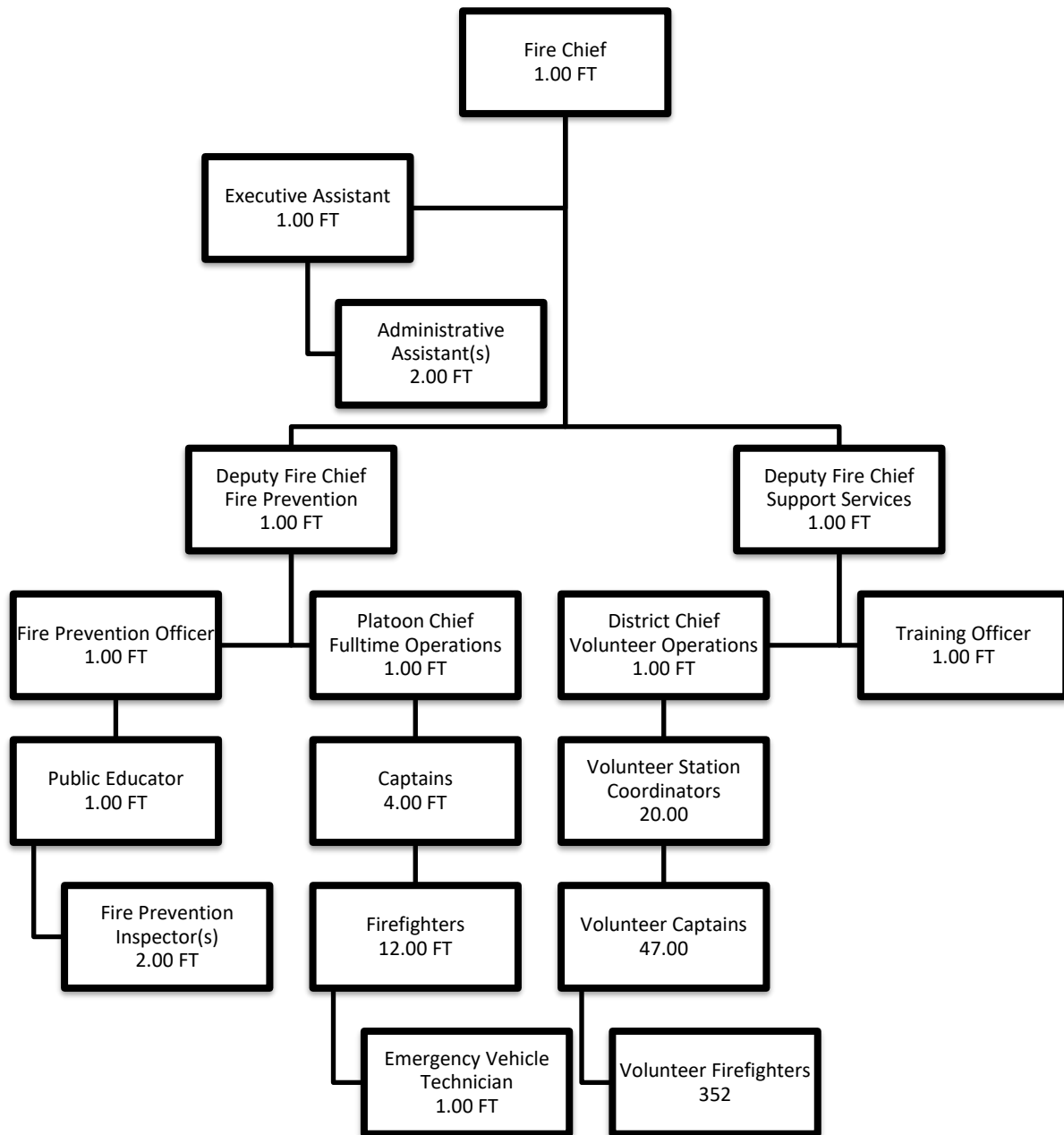
The Department is served by a combination of full-time (career) and volunteer firefighters.

The overall firefighting force dispersed between the Kawartha Lakes stations for the Fire Suppression/Operations Division consists of:

- Full-time firefighting force of 16 firefighters, a Platoon Chief, and Emergency Vehicle Technician
- Volunteer firefighting force of 380 firefighters

The organizational chart noted in Figure 3 reflects the general reporting structure within the Fire Department and that of the Fire Chief to the CAO and City Council.

Figure 3: Fire Department Organizational Chart



This current reporting arrangement allows for a sufficient level of involvement by the Fire Chief within the senior management structure of the City and also allows for a good-level of administrative oversight of the day-to-day operations of the Fire Department.

As noted in the above organizational chart, the areas of responsibility presently identify that the Fire Chief is responsible for the overall management of the KLFRS. The divisional oversight duties

have been spilt between the two Deputy Fire Chiefs – broken into Support Service and Fire Prevention.

1.3 Governance and Establishing & Regulating By-law

The current Establishing & Regulating By-law (E&R) was last updated in 2000 and should be reviewed and updated, even if no changes are identified or required. That being said, the present E&R By-law does identify the basic services that the Department is to provide, along with the general responsibilities and powers of the Fire Chief.

No actual response time expectation/criteria is noted in the Department's E&R By-law. The Commission on Fire Service Accreditation International (CFAI), which is viewed as a best practice in the fire service industry, recommends that some type of assessment be completed to evaluate a baseline for a department's response time goal. To accomplish this, the CFAI recommends that a minimum of the past three years' response times be reviewed. 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.

Annual reviews of the E&R By-law document should be completed by the Fire Chief as a standard business practice to ensure that the KLFRS is operating within the Council approved parameters. This does not mean that an updated report be presented to Council annually, only that the document is current and accurate. By doing this, the Fire Chief can ensure that KLFRS is providing the services required by the community.

With the introduction of the new Provincial regulations, the present E&R By-law will need to be updated to reflect the expectations of the fire department.

Based on the age of the E&R By-law, along with the introduction of the new Provincial regulations, it is recommended that it be updated by the Fire Chief and presented to Council for approval.

Recommendation(s)

1. It is recommended that the present Establishing & Regulating By-law be updated and presented to Council for approval.

Associated Costs (all costs are approximate)

- Recommendation #1: Staffing related costs only

Timelines

- Recommendation #1: Short-term (1 – 3 years)

SECTION 2 – Assessment and Planning

- 2.1 Three Lines of Defence
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- 2.3 Related Regulations, Standards, and Industry Best Practices to Assist with Planning
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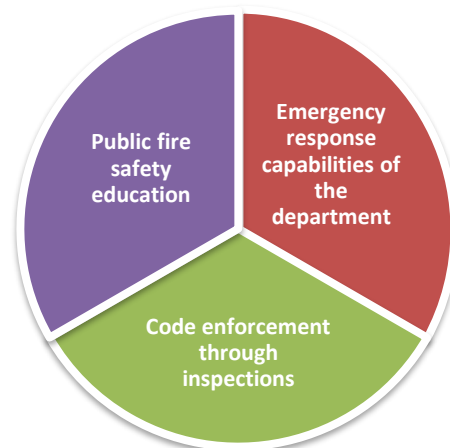
Section 2: Assessment and Planning

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. Through the work completed on their previous 2010 MFP and the implementation of this 2018/2019 MFP update process, KLFRS has clearly demonstrated a proactive approach towards its planning initiatives.

2.1 Three Lines of Defence

The Office of the Fire Marshal and Emergency Management (OFMEM) has identified three lines of defence for communities in relation to fire and life safety. These three lines are:

1. The Education – fire safety education is the key to mitigating the fire and life hazards before they start.
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 and possible charges.
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.



All planning initiatives by the fire department should be based on the three lines of defence identified by the OFMEM.

2.2 Assessment of Strengths, Weaknesses, Opportunities and Threats (SWOT)

This MFP document is the result of conducting a SWOT analysis on the community which has resulted in a list of recommendations for the City's Council, CAO, and Fire Chief to consider and implement.

The strengths and weaknesses portion of a SWOT are based on an internal review that identifies what is working well, along with recognizing areas for improvement. The

opportunities and threats portion are related to external influences and how these influences affect the operations and response capabilities of the Department.

2.2.1 Strengths

The City of Kawartha Lakes benefits from having well dispersed fire stations (throughout the community) responding to emergencies. Only one of these stations (in Lindsay) is staffed by full-time firefighters, 24-hours a day, 7 days a week. The other fire stations, located throughout the City, are dependent on response by the volunteer firefighters. These volunteer and full-time firefighters are a professional and dedicated group, whose goal is to serve the community as best they can, with the resources at their disposal.

Both the Fire Prevention Division and Training Division are doing a commendable job based on the level of staffing in each division, along with trying to meet the challenges of a growing community and growing demand for services.

The KLFRS has strong relationships with neighbouring departments and a long history of cooperative services.

2.2.2 Weaknesses

The KLFRS has limited full-time fire suppression staffing. The Department does have a complement of volunteer firefighters that can respond to calls from all but the Lindsay station. The volunteers are a critical component to the Fire Department, but due to other commitments, such as their full-time jobs and family obligations, there is no guarantee these volunteers will be available to respond as needed for all calls for service, which in turn can create a situation where possible low numbers of on-scene staffing levels may jeopardize operational effectiveness. KLFRS has a dedicated group of volunteers but over the years has also seen its fair share of turnover, which can equate to a lack of experience (levels) and lack of trained drivers/operators.

Due to the population growth of the City, along with increased traffic flow, there is a belief from the firefighters (which is supported by the Fire Chief) that there will eventually be a need to increase full-time staffing and even the possibility of having a central full-time station to ensure consistency (and dependability) in responses. Based on the anticipated growth and increase in call volume, EMT also sees this increase in staffing as a legitimate requirement but is not making a recommendation for this type of increase in full-time firefighting staff at this time. This must be monitored by the Fire Chief to identify where in fact the increases are occurring, along with response times by each station's staff. By monitoring this increase, a more informed decision can be made in relation to staffing increases and types.

To support and verify this anticipated future need, KLFRS staff must continue to monitor and verify the following data:

- Increase in call volumes and location of the calls
- Whether the volunteer component can meet the increase in calls with the required numbers to staff the fire trucks.
- How the increase in call volumes affects response times (overall), along with the level of reliability of consistent numbers of responding volunteer firefighters.
- How often the 24/7 crew at the Lindsay Station is available to respond to calls in the Lindsay area, as opposed to being tied up with responses in another area of the City.

2.2.3 Opportunities

KLFRS has a mutual aid program in place in which it can call on neighbouring fire departments for assistance whenever resources are exhausted and/or there is an inability to handle the situation in an efficient and effective manner. However, this type of resource is not meant to supplement KLFRS's resources. Mutual aid is to be used when no other options are available such as automatic aid and fire services agreements. Automatic aid and fire service agreements offer the community a more consistent level of response to areas not adequately covered by the local fire department. They must be monitored for their level of cost effectiveness and response efficiencies. This monitoring can identify when, or if, full-time staffing levels should be increased to offer a more effective and timely level of response to those areas of the community.

Another opportunity for KLFRS is to be pro-active in its training and promotional programs through the implementation of a Succession Planning Program. By identifying upcoming vacancy and retirement situations, the Fire Chief and senior staff can identify what positions will become available in the future. This will assist the Fire Chief in his efforts to fill vacancies, or in conducting a recruitment plan to ensure a qualified person will not only be available to transition into the upcoming vacancy but will also be trained and certified to meet the demands of that position.

More information will be presented on this succession planning program in Section 4 – Department Staffing.

2.2.4 Threats/Challenges

Major emergencies stressing the available full-time and volunteer suppression division staffing and equipment must be considered as the community's population continues to grow (both in the residential and commercial sectors) and age. This is a challenge that needs to be considered by most communities in the Province of Ontario.

The best way to deal with such challenges is to plan ahead by using related industry standards and to look at comparable communities in relation to how they have dealt with community growth. However, in completing this type of review, the Fire Chief and Council must be aware that no two communities are identical; each community has its own unique challenges due to demographics, topography, percentage of residential, commercial and industrial areas, along with transportation and road network challenges.

Another challenge for communities to deal with is the so called “100-year storm”. 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.

One of the new provincial regulations specifies that every municipality must complete a community risk analysis every five years to identify such things as the present level of service being offered to a community, along with areas of concern that will need to be addressed. The Fire Chief is the Community Emergency Management Coordinator (CEMC) and will need to conduct this community risk assessment or have it completed by a staff member. During our visits and interviews, it was apparent that the full-time staff are already carrying a heavy workload. As such, consideration should be given to the creation of a full-time CEMC/Risk Management Coordinator for the City. More information on this is presented later in the document.

In relation to response capability, daytime response by the volunteer firefighters is a challenge due to their other commitments, such as full-time jobs within or outside of the community. This is a challenge for most fire departments that depend on responses from the volunteer firefighters. Some possible options to this dilemma in relation to the volunteer firefighter response component are to actively recruit for volunteers that are on shift work or straight nights and are available during daytime hours.

Another key challenge for KLFRS is the projected population growth within the community that is anticipated to reach approximately 100,000 people by 2031. With a growth in population, comes an increase in calls for service. This is another reason to accurately monitor call volumes, types, response times, and response capabilities of the current staffing levels ensuring KLFRS continues to be effective in its mission to serve the community. Also, the new regulations that will come into force in 2019 will require fire departments to track response times and report on them on an annual basis. This will require the Fire Chief to ensure that the dispatching service is aware of the reporting criteria to identify if the present equipment can meet these reporting benchmarks.

All these challenges need to be assessed, monitored, evaluated and reported to Council by the Fire Chief to ensure that KLFRS is meeting the needs and expectations of the community. Along with monitoring the SWOT of the community, a fire service needs to also refer to any legislation, industry standards and best practices to guide it in its goal to ensure a fire safe community.

2.3 Regulations, Standards, and Industry Best Practices to Assist with Planning

2.3.1 Fire Protection and Prevention Act (Ontario)

The *Fire Protection and Prevention Act* came into force in 1997. The *Act* notes the responsibilities of the municipality in relation to ensuring the safety of the community's residents, such as fire safety education and the incorporation of a fire department. In May 2018 updates to this *Act* have been made in relation to the following program:

- Community Risk Assessment
 - Each municipality will be responsible for conducting and documenting a community risk assessment every five years.

2.3.2 National Fire Protection Association (1201, 1710, 1720 and 1221)

To assist with EMT's review and recommendations, reference has been made to National Fire Protection Association Standards, which are considered the North American benchmark for fire services.

NFPA 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 CAO and governing body (Council); create a master plan 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 the 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. This is where NFPA 1710 and 1720 need to be considered. These two standards are utilized for the following:

- NFPA 1710 refers to goals and expectations for Career Fire Departments
- NFPA 1720 refers to goals and expectation for Volunteer Fire Departments

The fourth standard noted is NFPA 1221 which addresses the goals and objectives for the taking and dispatching of calls for service. Kawartha Lakes Fire receives its dispatching services from the Kawartha Lakes Police Services. KLFRS has adopted the use of response time measurements as a guide to evaluate their capabilities in relation to the previously noted NFPA standards. However, it should be noted that the KLFRS's Establishing & Regulating By-law does not actually specify what response time criteria is expected of its Fire Department. This alone does not restrict KLFRS from tracking and reporting on its level of service on a year-to-year basis. In fact, this is considered a positive practice for the Fire Chief, as it allows for a proper assessment of response types, number of responses, and a thorough evaluation of response times to assess if the Fire Department can keep up to the demands of the community.

EMT has been advised that the Fire Chief does report to Council on an annual basis in relation to the Department's ability to meet a 15-minute response time goal for an overall average of 50% of the time. Based on this information, EMT will present response charts for this 50% response time average. EMT will also present information (later in this document) relating to industry best practices to show how well the Department is fairing in relation to the NFPA recommended response time standards.

2.3.3 Commission on Fire Accreditation International (CFAI)

"When a Fire Department applies a model of risk assessment to help determine their level of emergency services commitment, they have moved from being reactive to being proactive." – quote from CFAI overview information.

In the fire service, the NFPA (National Fire Protection Association) standards are considered the benchmark to strive for. Many of these standards have, to a large degree, been adopted and supported by the Office of the Fire Marshal and Emergency Management. The CFAI is an organization that has incorporated all national and local standards into an accreditation process, effectively becoming the model for best practices in fire services. As such, EMT utilizes the CFAI Accreditation model as a guide.

By utilizing the CFAI best practices process, KLFRS may choose to continue its work in this area by working towards achieving accreditation in the future. However, even if KLFRS does not opt to achieve accreditation, they can still utilize the components of the CFAI program in the development of KLFRS programs and processes.

Benefits of Accreditation:

- A standard system for risk assessment, decision making, and continuous improvement
- A plan for sustainment of services and ongoing self-assessment
- Agency performance objectives and performance measures
- Verification by peers

The CFAI program revolves around 10 categories, which are:

1. **Governance and Administration** – Includes such things as organizational reporting structure, establishing and regulating by-law requirements, etc.
2. **Assessment and Planning** – Evaluating the organization in relation to future planning.
3. **Goals and Objectives** – What are the goals of the fire service? Do they have a strategic plan in place?
4. **Financial Resources** – Does the organization have sufficient funding in place to effectively meet the needs of internal and external stakeholders?
5. **Programs** – This includes fire prevention, fire suppression, training, and emergency management.
6. **Physical Resources** – What is the state of the fire stations and are they located in the best location to respond to the community in a timely manner?
7. **Human Resources** – This is in regard to the staffing of the organization in all divisions as well as how the fire service works with the municipality's Human Resources Department.
8. **Training and Competency** – Review of all training programs based on what the Fire Department is mandated to provide.
9. **Essential Resources** – This section covers such things as water supply, communications/dispatch and administrative services.
10. **External Systems Relations** – This includes such topics as mutual aid, automatic aid, third party agreements, etc.

All these sections will be discussed within each related section of this MFP document.

2.4 Stakeholder Surveys

To get a complete understanding of how well KLFRS is meeting the needs of its staff and the community, surveys were conducted with both the internal staff of the KLFRS and external stakeholders.

To assist with the completion of the surveys, meetings were held with members of Council and with the City's Chief Administrative Officer (CAO).

The community survey was advertised through local media and was set up on the Department's website (in the form of an electronic survey).

Community input noted that getting value for the tax dollar and receiving the services needed ranked at the top of the priority list. These as well as supporting and promoting a robust public education program for the community rank as the top three priorities of those who completed the surveys.

2.4.1 Internal Surveys

During the MFP process, feedback was gathered from internal staff, which included firefighters, Administration, Training and Fire Prevention.

Much of the information received from the internal surveys identified the following:

- The majority of staff feel that they are well respected by the public and are proud of the work that they do for the community.
- The top three major challenges for the Fire Department are:
 - Continuing to meet the needs of the community based on projected growth
 - Proper training (based on services being delivered)
 - Full-time and volunteer staffing levels, along with fire station locations and ability to continue to meet the needs of each community
- The top three services that they feel are priority to the community are:
 - Firefighting
 - Rescue
 - Medical assist

2.4.2 External Surveys and Stakeholder Meeting Results

Input from the community is vital as it gives the Fire Department an indication of how the public perceives the Department and suggests areas for improvement from those with first-hand interaction with the Department.

The following input was received:

- Most respondents see the KLFRS as a dedicated and professional service
- The top three concerns noted by external respondents are:
 - That the Fire Department responds in a timely manner to calls for assistance
 - The cost of the fire service
 - The firefighters having the appropriate training
- The top three services noted by external respondents are:
 - Firefighting
 - Rescue
 - Medical response
- In relation to what is needed over the next 10 years, the top responses were:
 - Increase full-time staffing where and when it is required, to meet the growing demands of the community
 - A strong and effective fire prevention and education program

Overall, both internal and external surveys and stakeholder meetings were quite positive about the services being offered by KLFRS. The primary themes we heard (both internally and externally) were to ensure that the Fire Department continues to expand as the community grows and that KLFRS can continue to provide a quality service to the community.

Recommendation(s)

2. It is recommended that KLFRS review present and future staffing needs to develop a succession plan that will be based on such things as:
 - Position to be filled and when it must be filled.
 - What (if any) are the certification requirements and how long would it take to obtain certification.
 - What programs can be accomplished in-house or need attendance at the Fire College, Community College, or Regional Training Centre.
3. KLFRS is commended for its recruitment program that occurs twice a year. Nonetheless, EMT recommends that the Department continues to actively recruit volunteer firefighters that work rotating shifts or straight nights to improve daytime response numbers by the volunteer firefighters who are not available during daytime hours.

Associated Costs (all costs are approximate)

- Recommendation #2: Cost would be dependent on length of approved programs and if it can be accomplished in-house or regionally. Travel and accommodations may also need to be considered.
- Recommendation #3: There is no initial cost associated with this recruitment since it will not increase volunteer numbers.

Timelines

- Recommendation #2 and 3: Short-term (1 – 3 years) and ongoing as required.

SECTION 3 – Risk Assessment

- 3.1 Community Risk Assessment – Current and Future Needs
- 3.2 Simplified Risk Assessment

Section 3: Risk Assessment

3.1 Community Risk Assessment – Current and Future Needs

When conducting a community risk assessment, it is important to first note that it is Council that sets the level of service within the community. Therefore, it is the Fire Chief's responsibility to inform Council on the risks that exist within the community. Based on the information received from the Fire Chief, Council can make an educated decision in relation to any recommended improvements and/or adjustments.

The *Fire Protection and Prevention Act*, (FPPA) 1997, S.O. 1997, c. 4, outlines the responsibilities of a municipality, 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.

Further, the *Act* 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 City of Kawartha Lakes has established a Fire Department as outlined in Section 2.2(b) of the *Fire Protection and Prevention Act*, 1997, S.O. 1997, c. 4. The level of service that must be provided is further outlined in Section 2.1(b) of the *Act*. This level of service to be provided is determined by the needs and circumstances of the community and can be derived from conducting a Master Fire Plan 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 as the ability to afford the level of service to be provided. Together, the needs and 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.

Kawartha Lakes is currently experiencing growth in the community; while the majority of this growth is residential in nature, there are commercial and industrial prospects. All of this growth will impact the service delivery of the Fire Department where an increase in calls for service are evident.

As noted earlier in this document, the FPPA has been updated to include mandatory community risk assessments. Every community will be required to complete a risk assessment by July 1, 2024 and update it every five years. This will, in many cases, require communities to create a position that will be responsible for emergency management and community risk assessments.

3.2 Simplified Risk Assessment

As noted in the Ontario Fire Marshal's Public Fire Safety Guideline, PFSG 04-40A-03, *"The simplified risk assessment (SRA) and ensuing fire concern profile will assist in identifying the degree to which these activities are required in accordance with local needs and circumstances. The simplified risk assessment is made up of the following components:*

- *demographic profile*
- *building stock profile*
- *local and provincial fire loss profiles*
- *information analysis and evaluation*
- *priority setting for compliance*
- *implementing solutions*

Conducting a simplified risk assessment is a practical information gathering and analyzing exercise intended to create a community fire profile that will aid in identifying appropriate programs or activities that can be implemented to effectively address the community's fire safety needs."

With the introduction of the new provincial regulations relating to conducting a Community Risk Assessment, the present SRA program will most likely be blended into the overall Community Risk Assessment. For now, it is of value to note that the present SRA program is an integral building block in the data gathering process to understand the community that is served by the fire department. As the community continues to change, the document should not become stagnant as the results are only accurate to the time of which the review was conducted.

NFPA 1730 Standard on *Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations*, notes that this

review should be conducted at a minimum every five (5) years or after significant change. This standard also establishes a process to identify and analyze community fire risks. This standard refers to the process as a Community Risk Assessment. There are seven (7) components of a Community Risk Assessment (CRA) outlined in NFPA 1730. These components are:

1. Demographics
2. Geographic overview
3. Building stock
4. Fire experience
5. Responses
6. Hazards
7. Economic profile

Current Condition

The Simplified Risk Assessment (SRA) completed by KLFRS identified that there has been considerable growth in the community over the past decade (namely residential, but not exclusively). This growth has impacted the demographic profile and consequently the needs and circumstances for the delivery of services by the Fire Department. Also, as the population and infrastructure grow to meet the needs of the community, the types of calls and related frequency will need to be monitored by the Fire Chief to ensure that they are in fact meeting the needs of the community and the internal training and equipment needs of its firefighters to do their jobs in an efficient and effective manner.

In relation to its Fire Prevention and Public Education initiatives, KLFRS's Fire Prevention Division has ensured that it has a list of all the vulnerable occupancies (care facilities), schools and other special needs facilities that require attention and inspections due to legislated standards.

KLFRS has been working with bordering fire departments through ensuring mutual aid agreements are in place. These agreements are designed to allow for a seamless response by each community's fire department in support of each other when KLFRS's resources are exhausted due to a large-scale incident.

As for a large-scale hazardous material incident or other technical response issues that are outside of the Department's capability, KLFRS is working to identify what fire department(s) can be called upon to assist. As such, KLFRS has done what can be accomplished in preparing for such large-scale incidents in a pro-active partnership with its bordering communities and their fire departments.

Future Needs

Understanding the community and its needs allows KLFPS to be proactive in its education and enforcement programs for the community and to all fire department staff. When fires or other emergencies occur within the community, firefighters can be better prepared to cope with the fires and other related emergencies because they are trained, not only in the basics of firefighting, but in the special hazards that are found within the community. These hazards need to be noted in the Simplified Risk Assessment conducted by the Fire Department.

As the community grows, the frequency of calls and the need for service will grow. Based on this growth, there will be a future need for additional staff in the Fire Prevention Office and the Fire Suppression and Training Division. More supporting information relating to the staffing needs of each division can be found in the associated sections within this MFP document.

Utilization of the Integrated Risk Management Tool

The Ontario Fire Marshal's Communiqué 2014-12 introduced the Integrated Risk Management Tool to the Fire Service. Even though this program has been put in abeyance due to changes in legislation and community expectation, it is still a valuable tool for assisting a fire department in its endeavour to complete a proper risk assessment.

The Communiqué notes:

"The IRM Web Tool was developed as part of a commitment made by the OFMEM to the Ontario Association of Fire Chiefs (O AFC) and other stakeholders. The IRM Web Tool can be used by all Ontario's municipalities and Fire Departments to determine building fire risks in their respective communities by taking into account building characteristics (building factors) and the three lines of defence against fire (Three Lines of Defence):

Line one: Public Fire safety education

Line two: Fire safety standards and enforcement

Line three: Emergency response"

The Integrated Risk Management Web Tool is built around the three lines of defence and intended for municipal and fire service decision-makers. The tool was designed to assist municipalities in fulfilling the responsibilities prescribed in Section 2 of the *Fire Protection and Prevention Act, 1997* (FPPA).

The concept of the IRM is a "building by building" assessment, but its goal is to go beyond simply taking stock of buildings within the community; it was intended to be a holistic approach that is meant to combine all of a fire department's efforts in relation to:

- Fire prevention and education initiatives, including updated community reviews through the use of the OFMEM Simplified Risk Assessment
- Fire station locations and ability to respond in an efficient and effective manner
- Identification of hazardous situations/locations within the community
- Training and equipping the firefighters to execute their duties in a safe and efficient manner

The IRM approach is a combination of all facets of the fire service that is meant to combine a review of building stock, fire safety and prevention related issues to be addressed, ability to effectively and efficiently respond to emergencies and how well equipped and trained the firefighters are to deal with emergencies within the community. Conducting a review of every building within the City of Kawartha Lakes may not be practical. Utilizing NFPA 1730 definitions of risk categories may guide Council in deciding the focus and service level within the community. Council should determine (with input from the Fire Chief) an acceptable level of risk to manage within the community based on its needs and balanced with the circumstances to deliver the services.

NFPA 1730 defines the risks in three categories and provides examples for each. These risk categories are:

High-Risk Occupancy – An occupancy that has a history of high frequency of fires, or high potential for loss of life or economic loss. Alternatively, an occupancy that has a low or moderate history of fire or loss of life, but the occupants have an increased dependency in the built-in fire protection features or staff to assist in evacuation during a fire or other emergency.

Examples: apartment buildings, hotels, dormitories, lodging and rooming, assembly, childcare, detention, educational, and health care

Moderate-Risk Occupancy – An occupancy that has a history of moderate frequency of fires or a moderate potential for loss of life or economic loss.

Examples: ambulatory health care, and industrial

Low-Risk – An occupancy that has a history of low frequency of fires and minimal potential for loss of life or economic loss.

Examples: storage, mercantile, and business

Current Condition

Based on information received from the Fire Prevention staff, they have identified the number and location of vulnerable occupancies (care facilities) within the community, along with the number and type of schools. Since these facilities have unique educational and inspection needs, this type of information is critical in relation to inspection and educational programs (for these types of facilities), and the Department should be commended on keeping such accurate records.

Along with the above noted information, the Department also needs to keep track of the following building stock within the City of Kawartha Lakes to ensure that they are meeting the inspection recommendations outlined in the Fire Underwriters Survey as seen on the following page.

- Group A (Assembly)
- Group B (Institutional)
- Group C (Residential)
- Group D & E (Commercial)
- Group F (Industrial)
- Not Classified in OBC (trailer parks)

Utilizing the concept of the IRM tool, in conjunction with the guidance from the new FPPA regulations and NFPA 1730 will provide an overall picture of the resources, time, and tools required to keep the fire risks in the community to a manageable level, as defined by Council. It is important to note the number of buildings within Kawartha Lakes and the continual growth that is expected. Future development in conjunction with future building stock will inevitably put increased pressure on the Fire Prevention Officers to accomplish an adequate amount of inspections to ensure fire code compliance within the community.

To determine the current staffing needs, NFPA 1730 outlines a five-step process within Appendix “C” of the standard. This sample staffing exercise is not part of the requirements of the standard but forms a guide for informational purposes. It is important to restate that it is Council that sets the level of service within the community. This level of service must be based off the local needs and circumstances.

Information received supports that the Fire Prevention Division (FPD) has done an admirable job in ensuring that ongoing inspections and education programs are being conducted (when resources allow), but more needs to be accomplished. Fire Prevention Officers are duty-bound to conduct inspections upon request or complaint in accordance with the *Fire Protection and Prevention Act*. The FPD’s goal is to go beyond what is required by legislation and to be more proactive within the community in relation to public education. They are presently prioritizing

what needs to be done and what can be realistically accomplished with current staffing resources.

It is recommended that the FPD review its inspection program to identify levels of desired (and attainable) inspection frequency noted in the FUS Chart (see below). The Fire Underwriters Survey supports and recommends that a level of frequency be identified by the Fire Department in its quest towards ensuring a fire-safe community.

Table 2: FUS Suggested Frequency Chart

Occupancy	FUS 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

There is no doubt that a fire prevention division consisting of four personnel will be challenged in meeting or even coming close to this FUS recommended inspection program. However, a review of where the FPD is in relation to this recommended inspection program will offer an understanding of what level of staffing would be required.

Future Needs

The utilization of the IRM tool will provide an understanding of a fire risk building-by-building that can be extrapolated to show the risk in given areas. Along with a full Community Risk Assessment, this tool will aid in the design and formation of the fire prevention inspection and education programs. Upon updating the Community Risk Assessment, the IRM tool could be used to begin the process of measuring the community for fire risk. A thorough risk assessment can also avoid invalid comparisons between the KLFRS fire department and others. A municipality with a similar population may have very different fire risks, and therefore very different fire protection needs. A thorough risk assessment will ensure that such comparisons are valid. By providing a valid basis for comparison, a sufficient risk assessment can also provide confidence that innovations introduced elsewhere can be successfully applied in your municipality.

To assist the KLFRS Fire Prevention Division in its endeavour to meet the fire safety needs of each community, it is recommended that the FPD staff meet with local community groups to form a partnership regarding the organization of fire safety and public education events that can be tailored to the unique needs and challenges within the community, along with more use of electronic media for public education awareness.

- An example of a community group would be the Lion's Club, or a local community/neighbourhood group, etc.

Recommendation(s)

4. It is recommended that a Manager of Emergency Management position be created that will oversee emergency planning and preparedness along with the development and maintenance of the Community Risk Assessment for the City of Kawartha Lakes.
5. It is recommended that the Fire Department staff meet with local community groups to form a partnership in relation to organizing fire safety and public education events that can be tailored to the unique needs and challenges within the community, along with more use of electronic media for public education awareness. Further, the Fire Department should explore grants as well as other funding opportunities (e.g. donations from community service groups) for targeted fire safety and public education events.
 - An example of a community group would be the Lion's Club, or a local community/neighbourhood group, etc.

Associated Costs (all costs are approximate)

- Recommendation #4: Approximate cost for a full-time Manager of Emergency Management is \$100,000 to \$120,000 per year.
- Recommendation #5: No additional costs – staff time only, unless more fire prevention staffing is required.
 - Although there is no cost associated with this initiative, it may lead to new/updated programs that could incur some future costs.

Timelines

- Recommendation #4 & 5: Short-term (1 – 3 years) and ongoing

SECTION 4 – Department Staffing & Related Programs

- 4.1 Fire Department Organizational Overview
- 4.2 Fire Prevention and Public Education
- 4.3 Training & Education
- 4.4 Suppression/Operations – Full-time & Volunteer
- 4.5 Recruitment and Retention of Volunteer Firefighters

Section 4: Department Staffing

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

4.1 Fire Department Organizational Overview

As previously noted, the Fire Chief of the KLFRS reports to the City's Chief Administrative Officer (CAO) in a council-manager style of government. The Fire Chief serves as the head of the Fire Department and is supported by the following full-time staff:

- Two Deputy Chiefs
- A Platoon Chief
- A District Chief
- An Executive Assistant
- Two Administrative Assistants
- A Fire Prevention Division consisting of three Fire Prevention/Public Educators
- One (recently) hired Training Officer

The KLFRS does not have a staff member assigned as a full-time Emergency Coordinator/Planner. Presently, the Fire Chief fulfills the position of Community Emergency Management Coordinator along with all his other management duties.

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

- Is there a proper level of senior staff to manage the Department and its divisions?
- Is there adequate administrative support staff to assist with such things as records management and addressing day-to-day operations of the Department?
- Is there a need for other support staff in relation to vehicle and facility maintenance?
- When does a Fire Department either switch to a full-time fire service, no longer dependent on response support from volunteer firefighters? Or does the community's future needs and circumstances support a more balanced blend of full-time and volunteer firefighters to offer a more cost-effective option?

When an organization considers the need for the number of firefighters in relation to population, there is no actual standard that dictates how many firefighters are required within a population or whether the Fire Department needs to be entirely full-time, composite, or

volunteer in its service delivery format. Some municipalities have referred to other similar sized municipalities as a guide; however, it must be kept in mind that every community is unique in its geographical composition, population demographics and size of residential, commercial, and industrial sectors. Therefore, community comparisons should be utilized with all the aforementioned information in mind.

Having noted that there is no standard that recommends a firefighter per population quota, there is the National Fire Protection Association (NFPA) 1710 and 1720 standards on Career and Volunteer Fire Departments that identifies a staffing level per responding company. These recommendations note that three firefighters and one officer (for a total of four) should be on each responding fire company. Presently, KLFRS has a full-time staffing complement that responds out of the Lindsay fire station (all other fire stations are staffed by volunteer firefighters). The full-time staffing minimum allows for two firefighters and one officer per fire truck. This staffing level falls short of the industry standard recommendation. More information on this topic of staffing will be addressed later in this document.

There is no doubt that the call volume for the KLFRS will increase simply based on the influx of people, traffic, industry, and housing over the next 10 to 20 years. As such, a careful monitoring of call volumes and response times is critical when it comes to determining if KLFRS is keeping up with its response expectations. This review of response data is why EMT requested a full three years of data; this data creates a reliable baseline for identifying how well the Department is meeting any related industry response standards such as those noted in the National Fire Protection Association standards.

As previously noted in this document, for fire departments in Ontario, there are three main standards and industry best practices that are considered. First, there is the Fire Protection and Prevention Act and the OFMEM Public Safety Guidelines that are created and distributed by the Office of the Fire Marshal and Emergency Management. These documents advise fire services in the deliverance of Fire Prevention, Fire Suppression, and fire station location programs.

Second, there are industry best practices in the form of the National Fire Protection Association's 1201, 1710, 1720 and 1730 standards, which offer guidance in relation to:

- 1201 – Standard for Providing Fire and Emergency Services to the Public
- 1710 – Standard for Career Fire Departments
- 1720 – Standard for Volunteer Fire Departments
- 1730 – Standard on Fire Prevention, Code Enforcement and Public Education

Third, there is the Fire Underwriters Survey. The FUS group conduct a review and make recommendations based on their own proprietary formulas and expected industry criteria for community fire protection.

4.1.1 NFPA 1201 – Standard for Providing Fire and Emergency Services to the Public

Based on this standard, 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

4.1.2 NFPA 1710 and 1720 – Career and Volunteer Fire Departments

When a fire department has a level of volunteer emergency personnel comprising 85 percent or greater, it is considered a Volunteer Fire Department. However, for Ontario, any department that has a full-time contingent is listed as a composite department and should be evaluating its response services based on both the NFPA 1710 (for its full-time firefighters) and 1720 (based on its volunteer firefighter component) standards. The key consideration here is the initial response component and how that initial response team is meeting the goals and expectations of the Fire Department.

As for the 1710 and 1720 standards:

- NFPA 1710 in relation to the career firefighter component, chapter 4 notes, the expectation is that the crew can:
 - turnout (respond) from the station within 80 seconds, 90 percent of the time
 - have a travel time of 240 seconds (4 minutes) for the first unit to arrive on scene, 90 percent of the time in the primary response area
 - have a travel time of 480 seconds (8 minutes) for the remainder of the response contingent, 90 percent of the time
- NFPA 1720 for volunteer fire departments, chapter 4, notes the following for the deployment of volunteer firefighters:

- 4.3.1 notes the following: *“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 1000 per square mile), there should be a minimum response of **15 staff within 9 minutes**, 80 percent of the time*
 - *In Suburban areas (population of 500 – 1000 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 500 per square mile), there should be a minimum response of **6 staff within 14 minutes**, 80 percent of the time.”*

Note: *Based on the population density pockets within the City of Kawartha Lakes, the municipality could be seen to fall into both the Suburban and Rural staffing and response criteria because the Lindsay downtown area is well within the 500-1,000 population criteria. However, taken as population in relation to overall land mass, then Kawartha Lakes falls into the Rural criterion.*

The NFPA response standards are 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). However, most homes in Kawartha Lakes have basements and are 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.

Kawartha Lakes Fire Rescue presently reports its response time to Council based on an overall 15-minute response time. Even though the Fire Department is cognizant of the 1710 and 1720 standards and it has those response times as its benchmark goal, the data for this report is being conveyed based on what is presented to Council (which is to arrive on scene for an emergency call within 15 minutes, 50 percent of the time). Even though this 15 minutes at 50% is not what the NFPA standards recommends, the fact that some type of reporting and goal setting is in place is to be recognized and applauded. More information, along with yearly comparative response charts can be found in Section 5.

Composite fire departments must often question when it is appropriate to consider moving to a solely career model, eliminating the reliance on volunteer firefighters, and whether that move is a viable (cost-effective) option. There are many factors to consider including the number of volunteers arriving when paged out, how quickly they respond to the page, minimum staffing for apparatus turnout, the time of the day, and day of the week (e.g. volunteer availability during day shift vs. night shift), etc. Volunteers must be provided with the same minimum training certifications and equipment as career firefighters. Recruitment and retention of volunteers is becoming more of a challenge with the increasing training that they must commit

to on an annual basis and high staff turnover with many younger volunteers actively looking for full-time firefighting careers.

Some composite fire departments have determined where to focus additional career firefighters by identifying call volume, growth of the community, and, more specifically, the times of the day that are most challenging for volunteer firefighter responses. As with most fire departments, the daytime hours from Monday to Friday are the greatest challenge for the volunteer response due to fact that many volunteer firefighters are either at work, school or taking care of family at this time. As such, some fire departments initially focus a full-time component that works Monday to Friday, or even seven days a week. However, if the reliability of quick and effective response from a specific volunteer fire station or area is in question, then the Fire Chief and City Council will need to consider moving to a full-time weekday or even a 24/7 component (at certain locations) to meet the needs of the community. This transition must be part of an ongoing review conducted by the Fire Chief to ensure that all expectations of Council and the community are being met.

Another indicator for making this decision is tracking the number of firefighters that arrive at the fire station to respond. If, for example, the standard set by the Department is that three or more volunteer firefighters must arrive at the station before the fire truck can respond, then this should be monitored along with how many times a station is unable to gather the needed personnel to effectively respond. KLFRS has been tracking this response data, along with the amount of times when there were not enough volunteer firefighters and officers available to sufficiently staff a responding unit. This type of tracking should become part of a formal annual assessment.

There is no doubt that transitioning to an entirely full-time service is a large cost to the community of Kawartha Lakes and is an unreasonable option due to the amount of fire stations and level of call volume at many of the stations. Kawartha Lakes' present model of a composite fire department is a very cost-effective form of fire protection for a community of its size, but it must be emphasized that the anticipated growth of the community will create pressures that may force it to move towards having a larger 24/7 full-time complement at some of its stations in the future. These stations may still want to depend on volunteer firefighters as a support component.

4.1.3 Administration Division

The present Administrative Division consists of the Fire Chief, two Deputy Fire Chiefs, one Executive Assistant, and two full-time Administrative Assistants. The present level of staffing within the Administration Division appears to be adequate and meet the needs of the Department.

The CFAI Accreditation program has a specific section that evaluates the administration component of a fire department. In this section, the following points are noted:

Category 9C: Administrative Support and Office Systems

Administrative support services and general office systems are in place with adequate staff to efficiently and effectively conduct and manage the agency's administrative functions, such as organizational planning and assessment, resource coordination, data analysis/research, records keeping, reporting, business communications, public interaction, and purchasing.

Presently, the Administration Division is doing an admirable job at meeting the needs of the Department, but as the workload increases, the administrative staff will be challenged to meet future demands of the Fire Department. No recommendations are being made for an increase in staffing within this division at this time, but workload and quality of work produced should be monitored to identify if future additional staff may be required.

4.2 Fire Prevention and Public Education

Fire prevention and public education rank number one in relation to the three lines of defence presented by the Office of the Fire Marshal and Emergency Management. Fire prevention is the least costly way of providing loss control, reducing fire related injuries and death, and reducing fire service demand in the long term. As such, fire prevention and public education should be considered a priority.

The *Fire Protection and Prevention Act* (FPPA) states in section 2.2(a) that a community must supply fire safety education and fire prevention programs to its community through the appointment of a public safety officer or a community fire safety team OR (b) establish a fire department.

NFPA 1730, which is the standard relating to Fire Prevention and Public Education, notes in section 4.2.2 that the Fire Prevention Organization shall have an organizational structure of the size and complexity required to accomplish its mission. To accomplish this, NFPA 1730 offers a formula for the head of fire prevention to utilize.

4.2.1 Determination of Current Fire Prevention Staffing Requirements

KLFRS has a staffing complement of a Fire Prevention Officer, two Fire Inspectors, and a Fire and Life Safety Educator. It was identified by EMT through interviews and a review of workload

levels that the Fire Prevention Division is finding it difficult to meet the general goals and expectations placed upon the division in relation to proactive inspections and fire code enforcement.

During interviews, it was noted that the Fire Prevention Division does not track hours spent on inspections, report writing, and investigations. There is no doubt that the division is challenged with the limited resources it presently has, but to determine what level of staffing is required, a full and accurate tracking of staff hours is required to assess present and even future needs (based on growth of the community).

To assist fire departments in determining staffing needs, NFPA 1730 outlines a five-step process within Annex “C” of the standard. This sample staffing exercise is not part of the requirements of the standard but forms a guide for informational purposes. It is important to restate that it is Council that sets the level of service within the community. This level of service must be based off the local needs and circumstances of the community.

Note: Annex C is not a part of the requirements of this NFPA document but is included for informational purposes only.

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

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

Division 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 NFPA 1730 standard. The Fire Prevention Division should assess the previous five steps and evaluate their present level of activity and the future goals of the divisions.

To assist in this process, the Fire Prevention Division should more closely track the actual time spent on each of the Fire Prevention Office activities (ranging from site plan reviews, routine inspections, licensing, complaints, and requests, to name a few). Further, reporting should include clearly identifying the number of public education events as well as the numbers of adults and children reached. By identifying the time spent on each project and collating this into baseline (approximate) times, then the Fire Prevention Division can use those hours spent as a model figure in applying future initiatives.

The FUS group is very supportive of public education as a first line of fire safety defence within a community and support the concept of one Fire Prevention Officer per 15,000 to 20,000 population. Based on this formula, KLFRRS should be looking at a total of four to six personnel for fire prevention staffing. Furthermore, based on anticipated growth, a need for one to two more Fire Prevention Officers will be required within the next 10 years.

The CFAI outlines the following in relation to fire prevention and public education:

- A public education program is in place and directed toward reducing specific risks in a manner consistent with the agency's mission and as identified within the community risk assessment and standards of cover. The agency should conduct a thorough risk-analysis as part of activities in Category 2 to determine the need for specific public education programs.

Along with the information noted in the previous paragraphs, the 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 most, if not all, of their fire suppression officers to be certified to the Fire Prevention Division in relation to fire

prevention/public education related inspections and programs. This not only brings more resources to the table; it also enhances the level of fire safety awareness by those trained staff.

With the future FPPA regulation requirements, such training and certification will be required for anyone doing Fire Prevention Inspections to a minimum of the following levels:

- NFPA 1031 – Fire Inspector I
- NFPA 1035 – Fire and Life Safety Educator I

Taking into consideration the duties and present workload, it would appear that the Fire Prevention Division is unable to be as pro-active as it would like to be in terms of inspections goals and there is simply no possibility to meet the FUS Frequency Chart on inspections. Therefore, it is recommended that the FPD, through the utilization of this FUS chart as a benchmark, develop a plan on what the division can accomplish with its present staffing complement, along with presenting options for increasing inspection frequencies (through utilization of fire suppression staff). Through this plan, the Division can determine the next steps to meet the FUS benchmarks.

This review may ultimately support the need for additional staff in the Fire Prevention/Public Education Division in the form of either:

- A new supervisory position of Chief Fire Prevention Officer, or
- An additional Fire Prevention/Public Education Officer

Table 2: FUS Suggested Frequency Chart

Occupancy	FUS 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

(Note: Table 2 has been repeated here for ease of reference)

As noted earlier in this document, the FPPA has been updated to include mandatory community risk assessments. At that time, every community will be required to complete a risk assessment by July 1, 2024 and update it every five years. This will, in many cases, require most communities to create a position that will be responsible for emergency management and

community risk assessments. This person could work out of the Administration or Fire Prevention Division.

4.3 Training and Education

A fire service is only capable of providing effective levels of protection to its community if it is properly trained (and equipped) to deliver its services. Firefighters must be prepared to apply a diverse and demanding set of skills to meet the needs of a modern fire service. Whether assigned to Administration, Fire Prevention or Fire Suppression, all personnel must have the knowledge and skills necessary to provide reliable fire protection services to the community of Kawartha Lakes.

To ensure that all of the previously noted positions are trained to any required certification levels, the training division will need to draw upon more resource support, whether that is in the form of a fully staffed training division of at least two training officers or a combination of full-time training officers and district and/or platoon instructors.

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

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

Presently, the Deputy Chief that oversees the training programs for the KLFRS is aware of the program needs and facility requirements and has indicated that he is tracking much of this. However, to verify, in a more formal manner, that the training programs are meeting the related NFPA program recommendations, the Deputy Chief should identify:

- What training programs are required in relation to the services that KLFRS is providing
- The number of hours that are required to meet each of those training needs
- Resources required to accomplish this training
- Joint partnerships with bordering fire departments and private organizations that can be entered into to achieve the training requirements identified by the Training Officer
- An annual program outline at the start of each year to be presented to the Fire Chief, with noted goals and expectations, which are measured and reported on in relation to completion success rate at the end of each year

4.3.1 Commission on Fire Accreditation International

The CFAI Accreditation Program has a specific section that evaluates the training component of a fire department. In this section, the following points are noted:

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

Current Status

KLFRS has recently obtained a full-time Training Officer's position who is responsible for identifying the training needs of the suppression staff based on industry requirements. The new Training Officer will report to one of Deputy Chiefs that is assigned to oversee the training committee and development of training programs for the entire department. There is a master training schedule to identify what training is to be accomplished by each station. Each fire station does have a lead instructor to assist with the development and delivery of the programs.

Based on the present introduction of the full-time Training Officer's position. EMT is of the opinion that a second Training Officer's position is still required, due to the size of the organization and the fact that there are numerous training requirements for both the full-time and volunteer firefighters. As such EMT is recommending that KLFRS hire an additional Training Officer position to assist with managing and coordinating Department training programs for the full-time and volunteer firefighters. With two Training Officers, the Training Division would be better positioned to support a more formal station and/or district training coordinator program to enhance the implementation of training programs as required.

During EMT's training program review, it was noted that the Department does have a training facility to conduct many of the regular hands-on programs such as auto extrication and other basic programs. But more use of this facility will be required, which can be accomplished through the construction of required buildings or the purchase of a Draeger (or similar model)

live fire container training unit. These units can be set up to be stable in one place or mobile to move from one area of the region to another (as required).



Note: Photo is an example of the Dräger Mobile Live Fire Training Unit.

To enhance its training programs, it is recommended that KLFRS purchase a mobile live fire training unit and place it at the training centre to more effectively accommodate live fire training needs of the firefighters.

4.4 Suppression/Operations – Full-time & Volunteer

The KLFRS is a composite fire department with a compliment of 16 full-time firefighters that work out of the Lindsay Fire Station on a full 24/7 basis. The remaining stations rely on the volunteer firefighters for response to emergencies and other fire safety programs within each community. The volunteers respond from the other 18 fire stations, with an overall complement of approximately 380 volunteer firefighters.

Having reviewed the staffing and supervision levels within the Suppression Division, it was clear that due to the amount of fire stations and the area of coverage compared to level of direct supervision and support, that there is a need for another District or Platoon Chief.

Both the present District and Platoon Chief work Monday to Friday, daytime hours. Presently the duties of each revolve around the following:

- The Platoon Chief is focused on the oversight of the full-time component staffing and related equipment needs at the Lindsay fire station.
- The District Chief is responsible for the volunteer component, along with the related 18 buildings and their equipment. Due to the expanse of volunteer stations, staffing and equipment needs, a more defined breakdown of assigned duties would help to create a more efficient separation of duties. This single District Chief in essence is responsible for 18 fire stations and approximately 380 volunteer firefighters.
 - This should be broken down into a more manageable level of oversight, which would equate to two District Chiefs, that would be split into southern and northern divisions. The District Chiefs could be stationed at a fire station within their areas, and report to Lindsay HQ as required.
- This option of two District Chiefs with area offices would allow for more direct contact with their volunteer firefighters and accrue less travel time.

It has already been noted in this document that the present full-time minimum staffing of three firefighters on the (full-time) response unit does fall below the recommended standard of four. As such, it is recommended that Council support an increase in staffing of the present full-time crews to ensure a minimum response crew of four per fire truck out of the Lindsay Station.

4.5 Recruitment and Retention of Volunteer Firefighters

Kawartha Lakes Fire & Emergency Service has been doing a commendable job with the recruitment of volunteer firefighters. Often, volunteer fire departments face challenges when it comes to retention of its volunteer firefighters due to work, educational and family demands. It was noted during the interviews that KLFRS conducts recruiting programs and related training one to two times per year to maintain the current volunteer complement at approximately 380 firefighters. While the constant recruitment and training programs puts a strain on the present administrative and training resources, the fire department is to be commended for its effectiveness.

The Office of the Fire Marshal and Emergency Management has put out a document on recruitment and retention in an effort to offer some criteria and/or guidelines that departments can utilize. Refer to Appendix “D” for the document.

Some of these points relate to enhancing training and special projects for the staff to become more involved in, such as:

- Long service awards in the form of remuneration or a stipend
- Education assistance programs to support them in their professional development

- Increased training opportunities

All these concepts are great but have limited effect if the community is not offering the desired employment, education or housing needs of the firefighters.

Recommendation(s)

6. It is recommended that KLFRS continue with its five-year staffing plan in which the addition of another District Chief or Platoon Chief position is to be created and incorporated into the staffing and organizational structure of KLFRS.
7. It is recommended that the FPD, through the utilization of this FUS chart as a benchmark, develop a plan on what the division can accomplish with its present staffing compliment, along with options for increasing inspection frequencies (through utilization of fire suppression staff) and ultimately what is needed to meet the FUS benchmarks.
 - This review will help to determine the level of risk within the community, along with the level of fire prevention staffing needs and/or additions to the division. This addition could come in the form of adding the position of Chief Fire Prevention Officer or another Fire Prevention/Public Education Officer.
8. To verify the Training Division is meeting related NFPA (and other) training program recommendations, the Training Officer (or person assigned to monitor training) should identify:
 - What training programs are required in relation to the services that KLFRS is providing, along with what training programs need to be implemented or enhanced based on the new Provincial regulations
 - The number of hours that are required to meet each of those training needs
 - Resources required to accomplish this training
 - Joint partnerships with bordering fire departments and private organizations that can be entered into to achieve the training requirements identified by the Training Officer/Manager
 - An annual program outline at the start of each year to be presented to the Fire Chief, with noted goals and expectations, which are measured and reported on in relation to completion success rate at the end of each year
9. It is recommended that KLFRS hire an additional Training Officer position to oversee/coordinate training programs such as the certification of firefighters and officers. This position would assist with the coordination of programs to ensure consistence throughout the Department. A more formal station and/or district training coordinator program to assist with the implementation of training programs and the delivery of them is also recommended.
10. To enhance training, it is recommended that KLFRS purchase a mobile live fire training unit and place it at the training centre to accommodate training needs of the firefighters.

11. It is recommended that Council support an increase in staffing of the present full-time crews to ensure a minimum response crew of four per fire truck out of the Lindsay Station.
12. It is recommended that continued enhancement of the full-time Fire Officer resources be incorporated into an annual fire prevention program on a more formal basis. To accomplish this, all full-time officers should be trained and certified to at least:
 - NFPA 1031 – Fire Inspector I
 - NFPA 1035 – Fire and Life Safety Educator I

By having all full-time Officers trained to the noted levels, KLFRS will have a greater number of resources to draw upon in its public fire safety education and inspection programs.

Associated Costs (all costs are approximate)

- Recommendation #6: \$120,000
- Recommendation #7: No additional costs – staff time only
- Recommendation #8: No costing noted – staff time only for the review
- Recommendation #9: \$115,000 per officer
- Recommendation #10: Cost determined by the size and complexity of the training unit but estimated at \$300,000
- Recommendation #11: four more firefighters would cost approximately \$400,000 per year
- Recommendations #12: Cost would be based on staff time for the training programs

Timelines

- Recommendation #6: Short to Mid-term (1 – 6 years)
- Recommendations #7, 8, 9, 11 and 12: Short-term (1 – 3 years) – ongoing
- Recommendation #10: Mid-term (4 – 6 years)

SECTION 5 – Emergency Response and Dispatching Services

- 5.1 Emergency Response
- 5.2 Service Level Standards - Dispatching
Services
- 5.3 Future Needs

Section 5: Emergency Response and Dispatching

5.1 Emergency Response

As previously noted, the KLFRS utilizes the NFPA 1710 and 1720 as its benchmark response goals. However, it presently reports its response times to Council based on 15 minutes, 50% of the time.

To provide a fire department clearer focus on what the ultimate goals for emergency response criteria are, the National Fire Protection Association (NFPA) suggests that response times should be used as a primary performance measure by fire departments.

When considering the response times and related needs for a community, the fire response curve (Figure 4) 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 other factors, the rate of growth can be affected in several ways, which can increase or suppress the burn rate through fire control measures within the structure.

When we look at 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/incident 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, both at the fire station and at the scene of the incident
 - Assembly time includes dispatch time, turnout time to the fire station and response to the scene. 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 noted in the following fire propagation diagram, the need for immediately initiating fire suppression activities is critical. It must also be noted that KLFRS responds to more than just fires. For example, motor vehicle collisions can create a medical or fire emergency that also needs to be addressed urgently. Hence the reason to be as efficient and effective as possible in responding to calls for assistance.

Figure 4: Fire Response/Propagation Curve

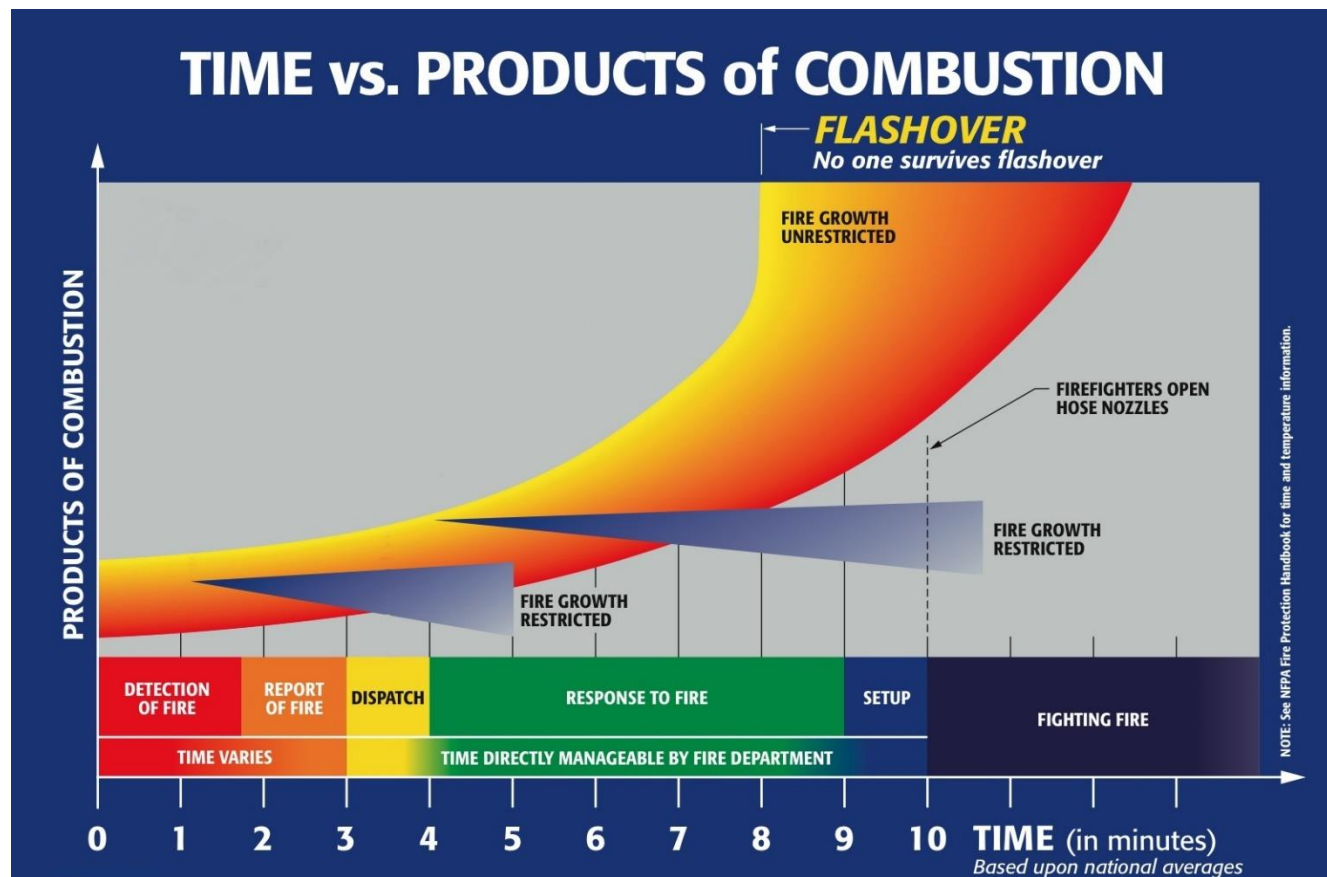


Figure 4 notes the following time variables:

- Detection of fire – when the occupant discovers that there is a fire. The fire may be in a very early stage or could have been burning for quite some time before being detected
- Report of fire – 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 actually 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 – actual time on scene extinguishing the fire

Based on fire growth as demonstrated in Figure 4, and the previously noted associated timelines, the overall goal of any fire department is to arrive at the scene of the fire and/or incident as quickly and as effectively as possible. If a fire truck arrives on scene in eight minutes or less, with a recommended crew of four or more firefighters, then there is increased opportunity to contain the fire by reducing further spread of the fire to the rest of the structure.

Alternatively, if the first fire attack team arrives with only three firefighters on board, then it is limited to what operations it can successfully attempt. Based on studies and evaluations conducted by the National Institute of Standards and Technology (NIST), the NFPA and Ontario Firefighter Health and Safety Section 21 Guidelines, no interior attack is to be made by the firefighters until the sufficient number of staff 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 (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.

A lack of on scene staffing is also a health and safety factor for the firefighters at the incident due to a lack of back up resources. The key point to state here is that not having a sufficient number of firefighters at an emergency scene can create an unsafe situation (for the firefighters) or in a worst-case scenario, it can cause a delay in conducting effective fire suppression, lifesaving and/or rescue operations.

KLFRS does have a protocol in place in which more than one fire station is paged out for any large-scale calls such as fires. To ensure a minimum compliment of four firefighters is always in effect, KLFRS has a response protocol in place that ensures additional stations and crews are automatically dispatched to the same incident whenever a station and its firefighters are dispatched to any type of call requiring backup.

5.1.2 Response Data

The following charts identify a comparison of response types and the response breakdown for 2019 and 2018. To view the 2017, and 2016 data, refer to Appendix “F”. This breakdown is based on the present reporting format of average response times for the Department. EMT has noted in this document that the utilization of the NFPA industry standard would be the preferred process since this is a recognized industry standard.

The KLFRS response times are calculated based on the OFMEM definition from “dispatch time, to time of arrival at the incident”. In other words, from the time the fire station or pager tones activate, to the time it takes to get to the fire station, get on the fire truck and drive to the emergency scene location.

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.

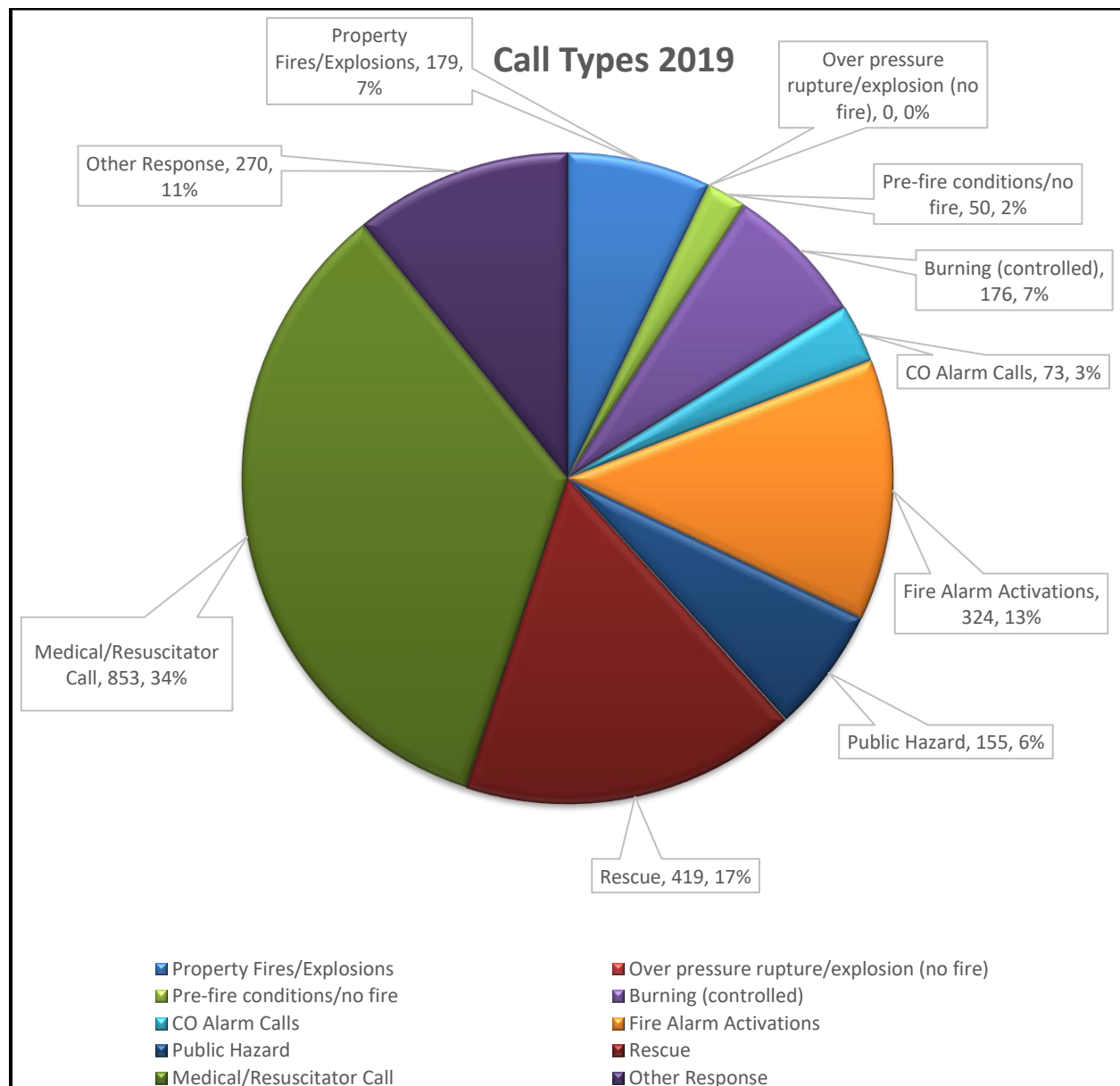
The following charts are a comparison of calls for service by fire stations. The charts will note:

- Total calls per year by fire station
- An overview of the 2018 and 2019 call breakdown
- The average response time (50th percentile) numbers for travel times and total response times (2018)

Note: *The following charts may not reflect the full amount of calls that the Fire Chief has noted to Council in a report. This is due to the following points:*

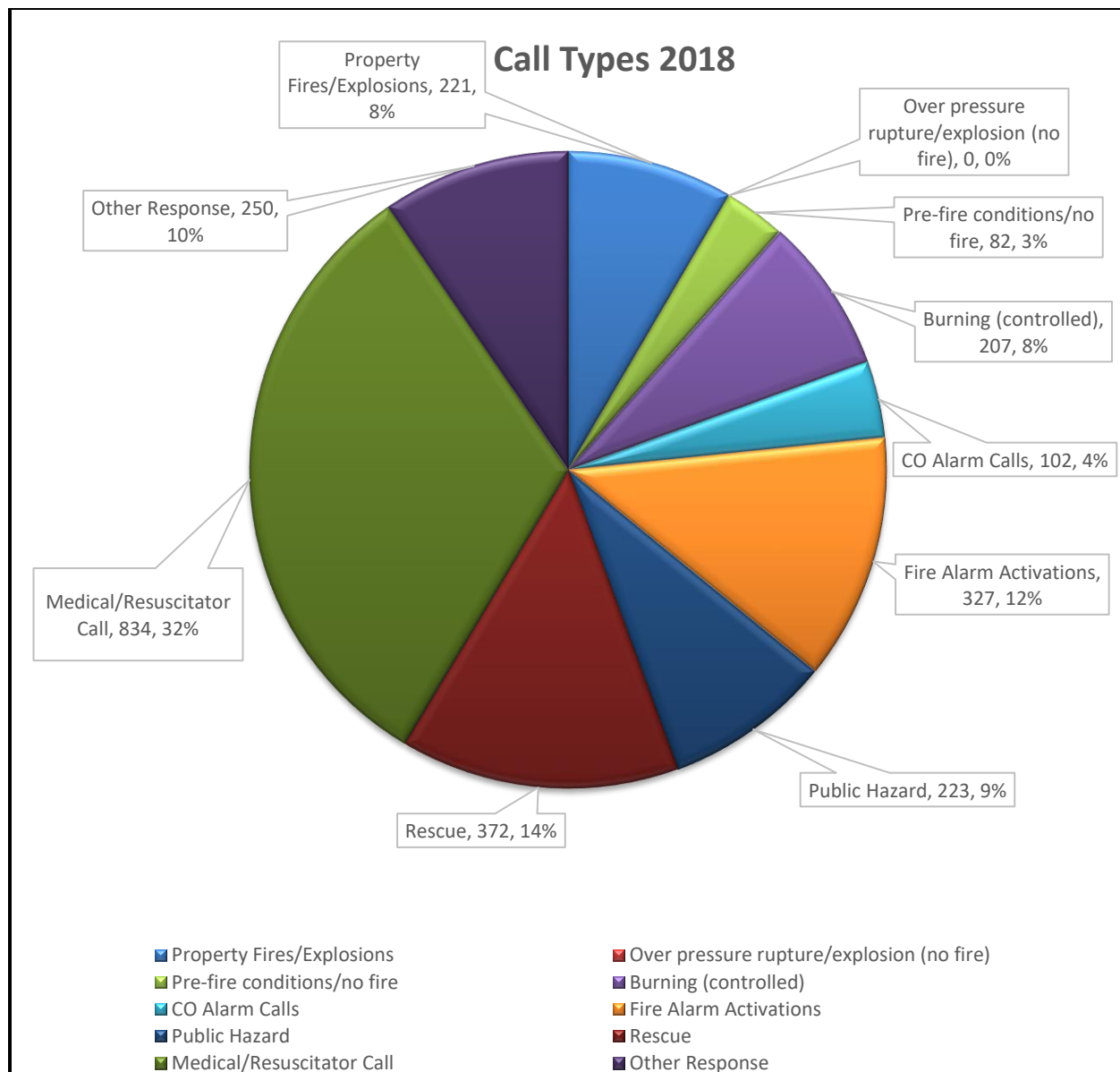
- *To get a more accurate accounting of response times, some of the calls were removed from the data analysis due to identified anomalies in time stamping. For example, if an emergency response time was noted as taking hours, then it was removed based on the assumption of a data entry error.*
- *Also, only the emergency responses were measured, which is the recommended practice noted by the NFPA and the Commission of Fire Accreditation International (CFAI)*
 - *For example, a department may have noted a total of 2,500 calls for service for the noted year. However, only 2,000 of those calls were emergency responses.*

FIGURE(S) 5: Comparison of Call Types



As illustrated in the above chart, the top three types of calls that KLFRS responded to in 2019 were:

1. Medical/resuscitator, which account for 34% of the Department's overall response.
2. Rescue related calls, which account for 17% of the Department's overall response.
3. False fire calls (fire alarm activations), which account for 13% of the Department's overall response.



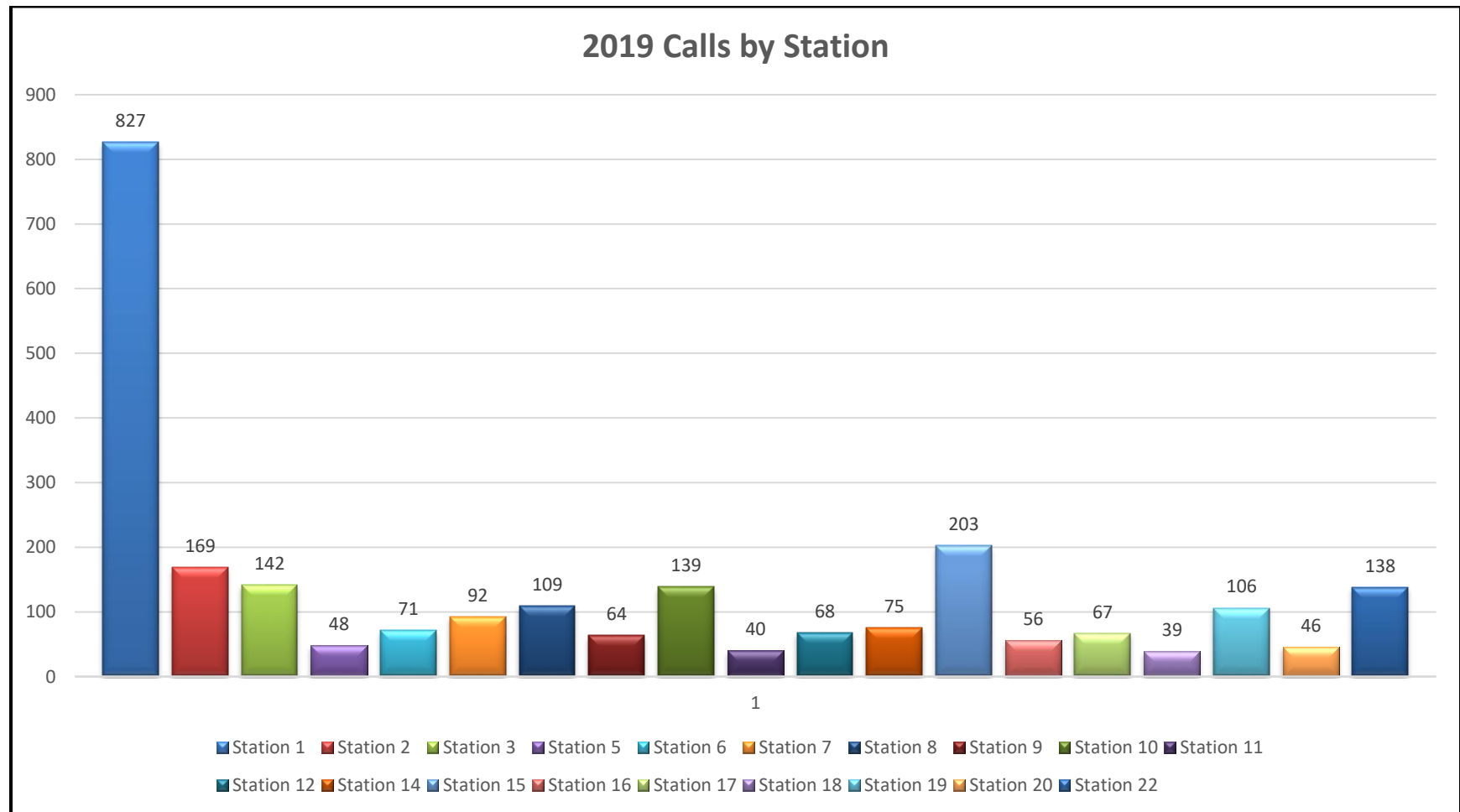
As illustrated in the above chart, the top three types of calls that KLFRS responded to in 2018 were:

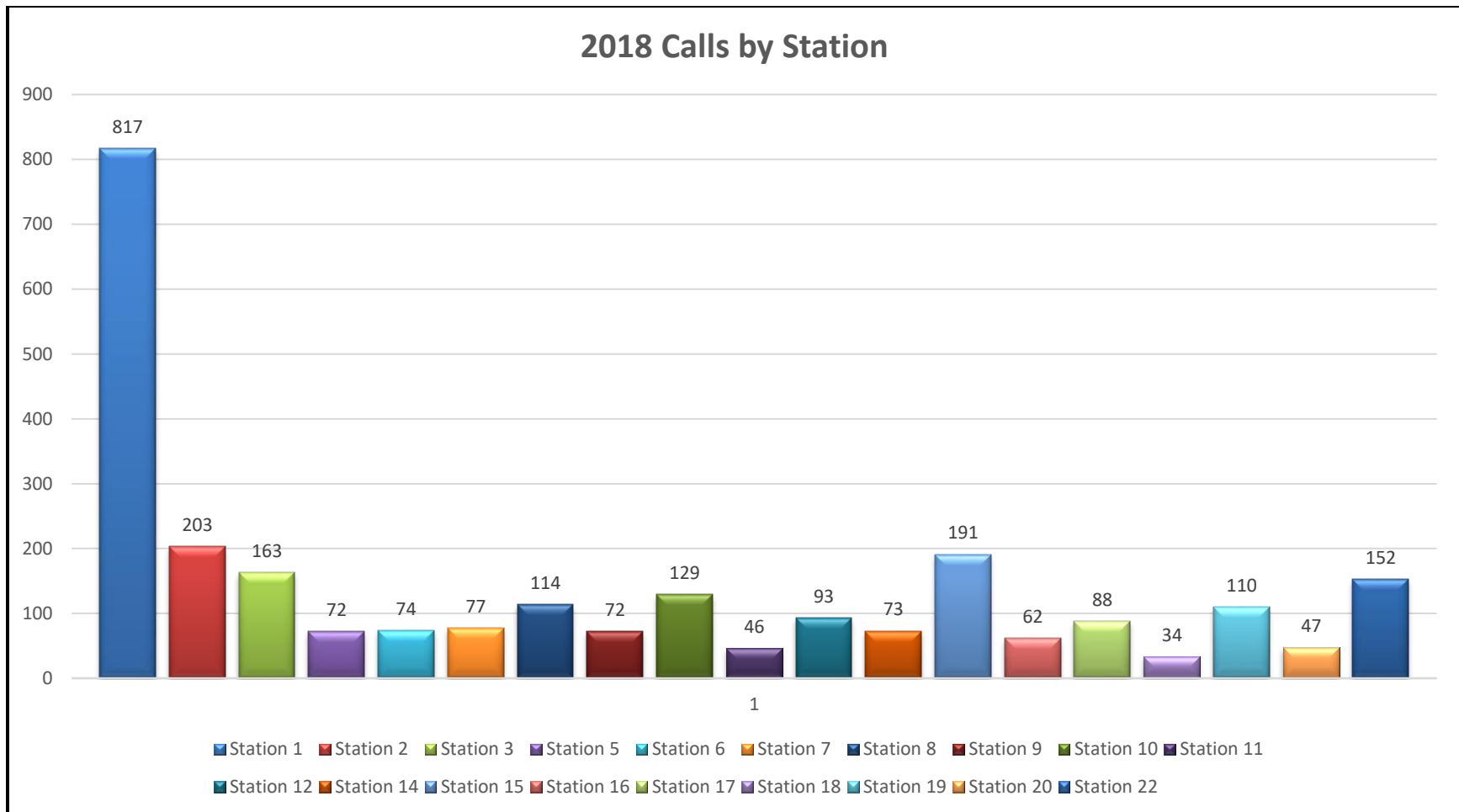
4. Medical/resuscitator, which account for 32% of the Department's overall response.
5. Rescue related calls, which account for 14% of the Department's overall response.
6. False fire calls (fire alarm activations), which account for 12% of the Department's overall response.

Based on this information, the percentage comparison gives the Fire Chief and his staff the ability to monitor where the bulk of their resources are being utilized. This also offers

greater focus for required training programs to ensure that the firefighters are receiving training related to the types of responses that will demand a higher skill set.

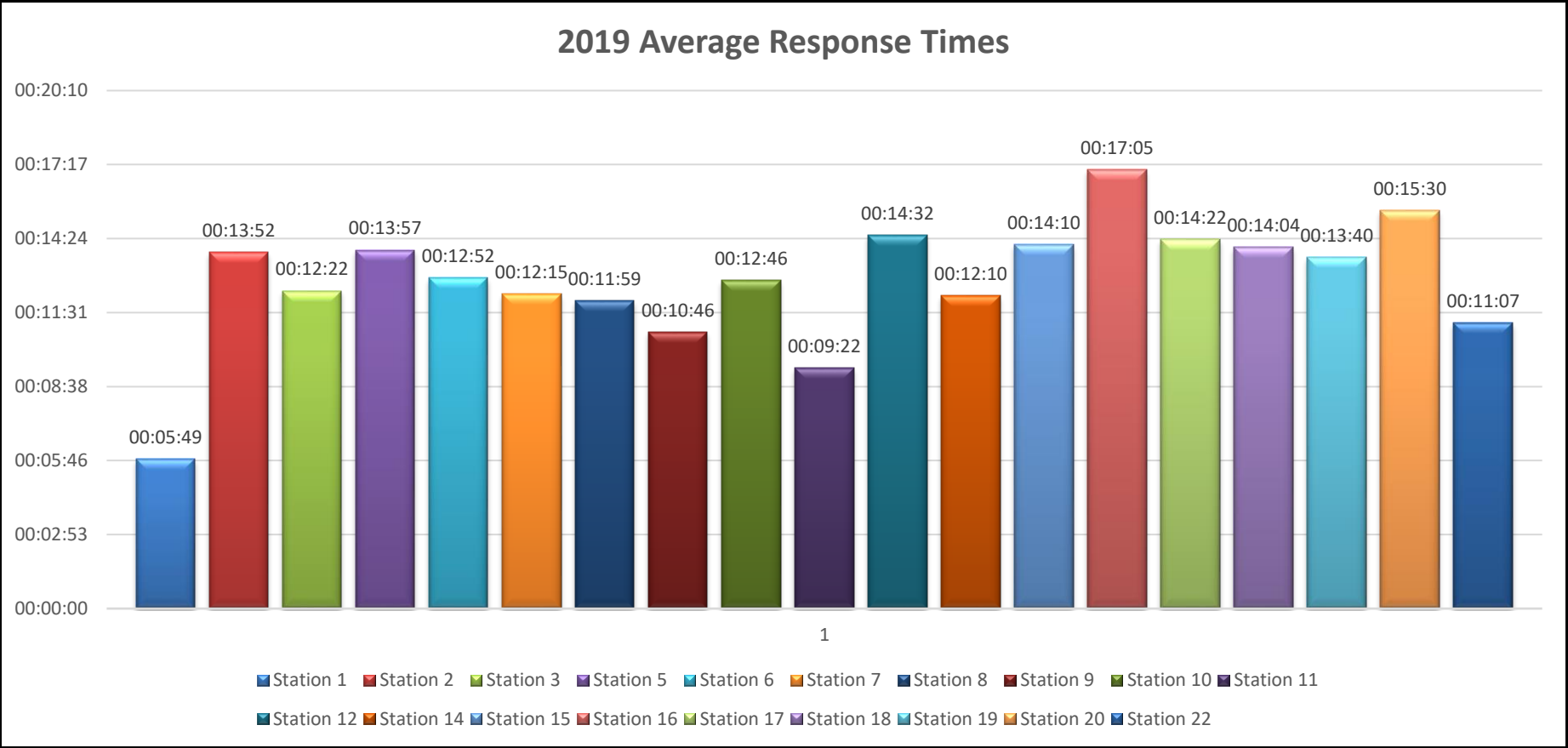
FIGURE(S) 6: Total Calls by Station

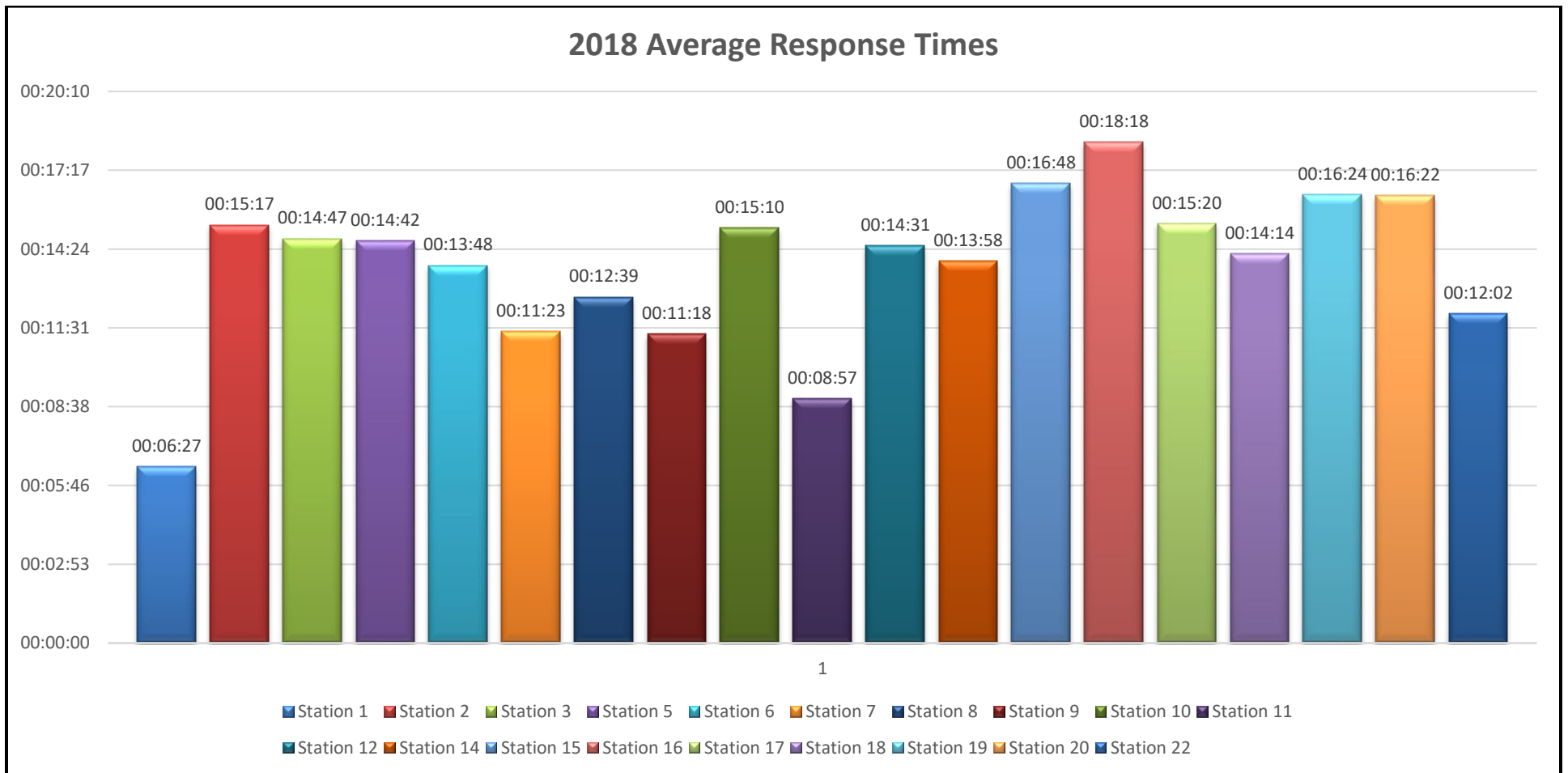




Illustrated in Figure 6 in the 2019 calls as well as the 2018 calls, we can see that Station 1 far surpasses all other stations in call volume, while Station 18 responds to the least amount of annual calls.

FIGURE(S) 7: Average Response Times





Note: Call data and charts for 2017 and 2016 can be found Appendix “F”

The response chart notes how well each fire station is meeting the average response times in relation to the 15-minute response time as presented by the Fire Chief. In 2019, all but two stations are below the 15-minute goal which was a great improvement from 2018.

In its efforts of continuous improvement, it is suggested that the Fire Department utilize the NFPA response standards as their benchmark.

5.2 Service Level Standards – Dispatching Services

Kawartha Lakes Fire and Rescue Service receives its dispatching services from the Kawartha Lakes Police Services (KLPS). Based on information received, along with a review of the dispatching data, it would appear that KLFRS is receiving adequate dispatching services from KLPS.

Based on the new FPPA regulations, another area that will become legislated is the annual reporting on responses to the OFMEM and the Department’s Council. Once the new FPPA regulations come into force, KLFRS will need to review the expectations of this part of the regulation to ensure that the dispatching services can meet the new requirements. The first step in this process would be to have the KLPS dispatch centre work towards meeting the NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems. This standard outlines the goals and expectations of a dispatch centre in relation to call taking and dispatching of calls.

For example, NFPA 1221, Section 7.4 Operating Procedures notes the following criterion:

- **7.4.1** Ninety-five percent of alarms received on emergency lines shall be answered within 15 seconds, and 99 percent of alarms shall be answered within 40 seconds. *(For documentation requirements, see 12.5.2.)*
- **7.4.1.1** Compliance with 7.4.1 shall be evaluated monthly using data from the previous month.

5.3 Future Needs

The Fire Chief is currently monitoring call volumes and response capability; however, he should also incorporate an overview of station location and their reliability to respond to calls within their response zones. These reliability reviews will help to identify which stations are meeting the goals and expectations set out by the Fire Chief, along with identifying if any response procedures need to be adjusted to improve response capability of the Fire Department.

Recommendation(s)

13. The present dispatching agreement with KLPS should be updated to include performance measures as per the NFPA 1221 standard.

Associated Costs (all costs are approximate)

- Recommendation #13: Some cost may be associated with NFPA incorporation, but no amount is offered at this time.

Timeline

- Recommendation #13: Short-term (1-3 years) with ongoing review of the services provided by the KLPS.

SECTION 6 – Facilities

- 6.1 Fire Station Review, Locations and Suitability
- 6.2 Generators/Emergency Power
- 6.3 Headquarters Space Concerns and Options

Section 6: Facilities

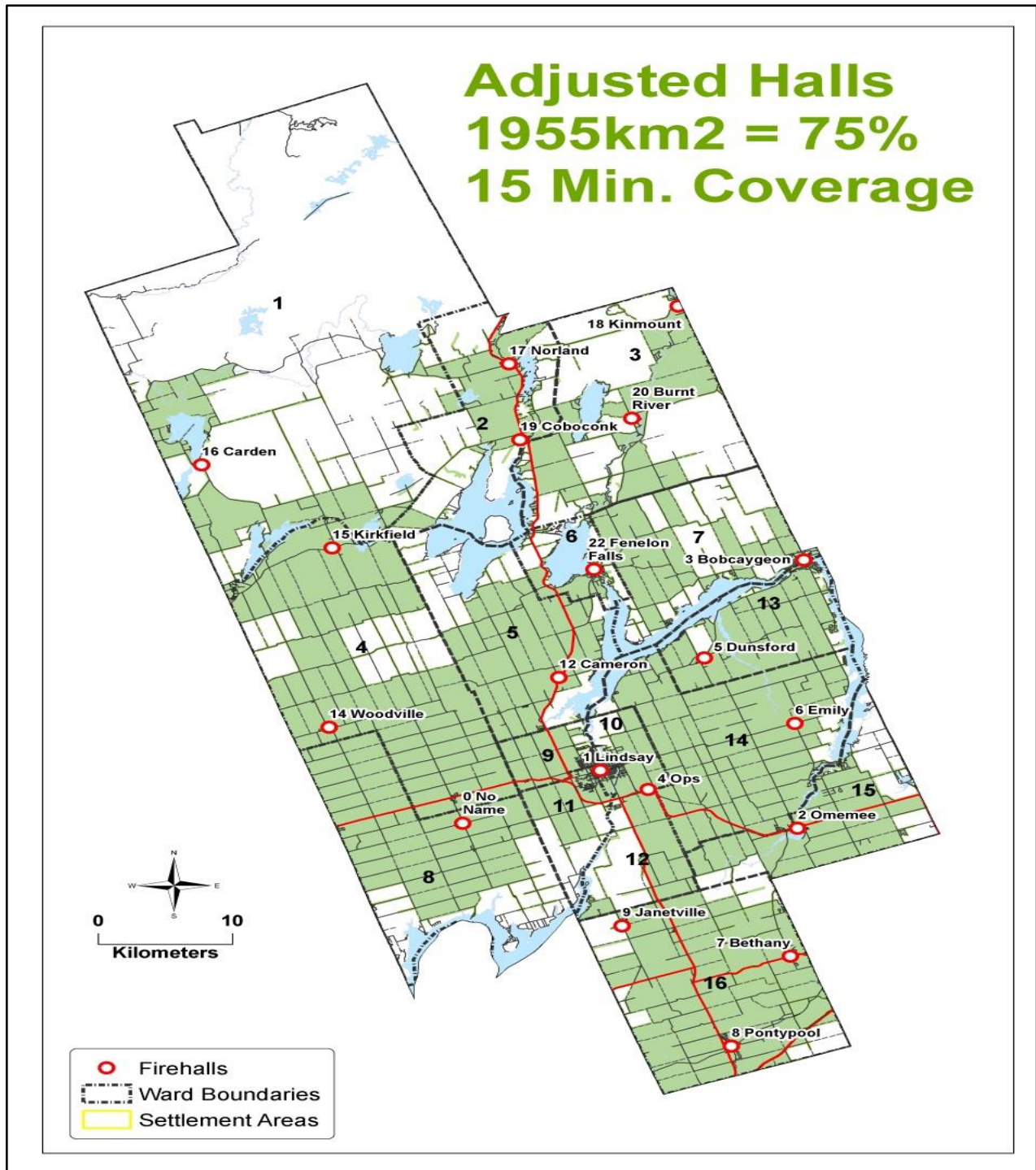
6.1 Fire Station Review, Locations, and Suitability

A review of the existing fire station facilities was conducted by EMT and will be addressed in this section.

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 location depends on many factors such as key risks within the response zone, future growth of the community and the response team composition (full-time vs. volunteer firefighters). Another consideration is the geographical layout of the community that can include natural barriers or divides, such as water, that makes it necessary to have some stations located within proximity of each other.

Public Fire Safety Guideline – PFSG 04-87-13 on Fire Station Location notes 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.

Figure 8: Present Fire Station Locations within Kawartha Lakes

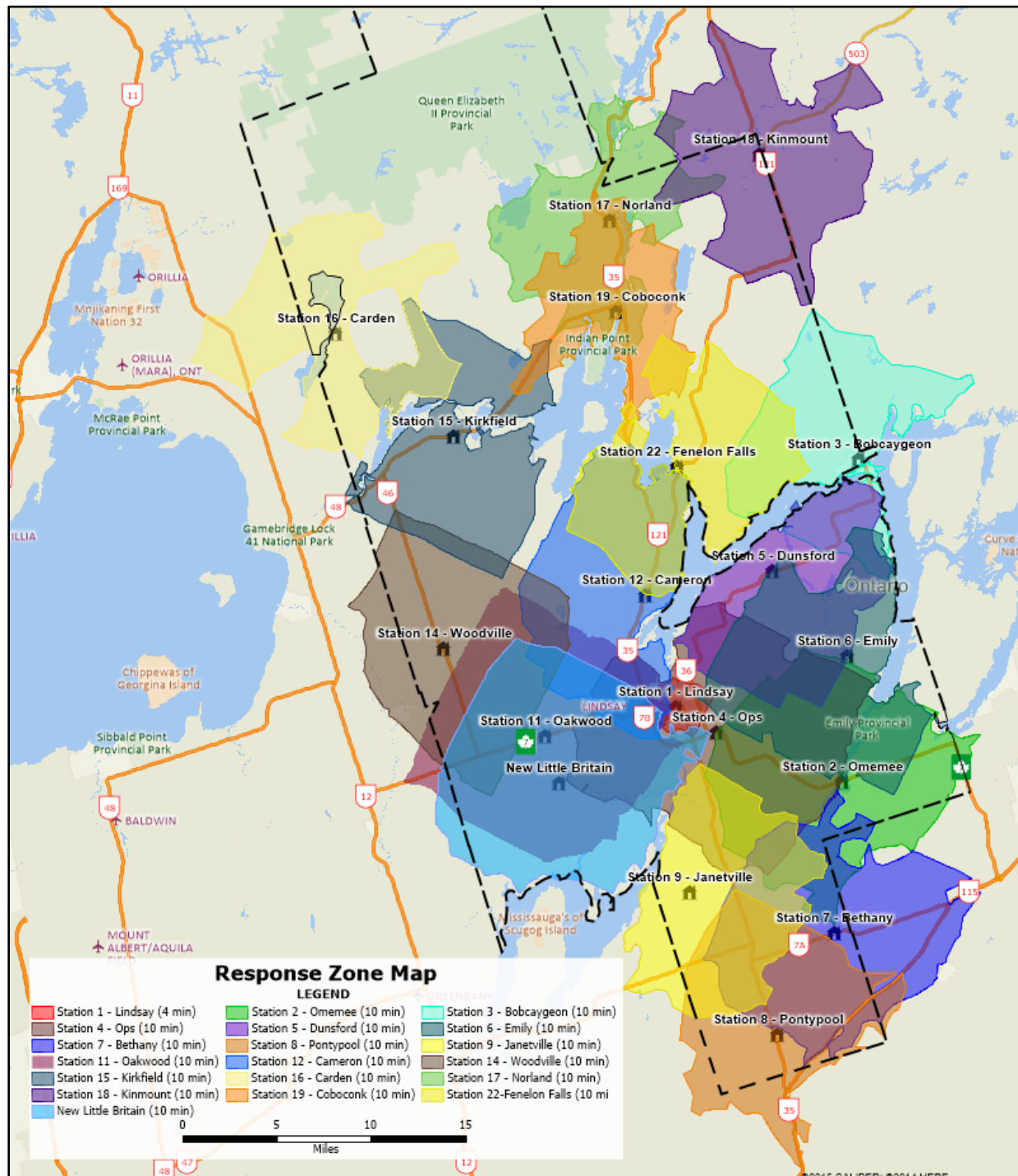


In the following map, the shaded areas around each fire station area denote a response time zone:

- For the Lindsay HQ fire station, this is based on the NFPA 1710 standard of an initial 4-minute response time recommendation for full-time fire stations.
- The other zones refer to the NFPA 1720 standard of 14-minute response time zones for volunteer firefighters. That have been reduced to a 10-minute drive-time, which accounts for time that it would take the volunteer firefighters to respond to the fire station and begin the response to the scene.

Note: *Even though the Fire Chief reports on the overall 15-minute response times, the maps are still reflective of the zones that can be covered by each fire station, taking into account a four to five-minute response time to the fire station by the volunteer firefighters. This would still equate to a 10-minute drive-time as noted in the maps.*

Figure 9: Response Zones for the KLFRS



The response zone map indicates that a large portion of the City is covered within the noted response time criteria. However, a review should also be conducted to identify what homes and properties fall outside of the response zones. These homes and properties should then be

targeted by the Fire Prevention Division to conduct more fire safety training based on the property and possible hazards.

Prior to discussing EMT's findings and related recommendations for the KLFRS fire stations, it should first be noted that the Fire Department and Municipality should be commended for its pro-active approach to having diesel (vehicle) exhaust systems installed in many of its fire stations. This was completed in 2019. The installation of these units will promote a safer and healthier environment for the firefighters.

6.1.1 Lindsay HQ



The KLFRS headquarters is located in the downtown area of Lindsay. Over the years, the building has been renovated to accommodate space of Administration, Fire Prevention, and the full-time firefighters who work out of this building. One thing that became quite clear in our review is that there is no room left in the facility for any growth. In fact, there is a need to either put an addition onto the facility to allow for office space for staff, proper accommodations for firefighters, adequate space on the apparatus floor, and storage, or consideration must be given to the reallocation of resources to another facility. The Fire Prevention Division has three staff in one office, which makes for a very tight working arrangement.

The apparatus floor is overcrowded with no more room to store vehicles inside the building. In fact, as noted in some of the photos, the space is so tight that there is no room in some places for the firefighters to move between the vehicles. Current space for the firefighter duty rooms should be redesigned to allow for adequate space for the fire crews as well as ensuring prompt turnout for calls. EMT is of the opinion that this facility has outlived its usefulness and requires either a major expansion/update, or that a new location be found to build a new headquarters that can accommodate staff for decades to come.

Note: *The issue of space requirements was also identified as a concern in the 2010 – 2017 MFP.*

More information on the KLFR headquarters will be discussed at the end of this section.



Exposed electrical panel to water contamination is a concern due to electrical shock potential.

6.1.2 Omemee – Station #2



The Omemee station is a volunteer fire station that is also utilized by the OPP as a community sub-station. This station, as with many of the other fire stations, is challenged with the housing of newer, larger fire vehicles. Due to the size of the newer fire trucks, there is little space left between the two trucks at this fire station.



6.1.3 Bobcaygeon – Station #3



The Bobcaygeon station is a volunteer fire station that houses the ambulance service for the area. This is a very good use of space and offers a better level of emergency service to the community.



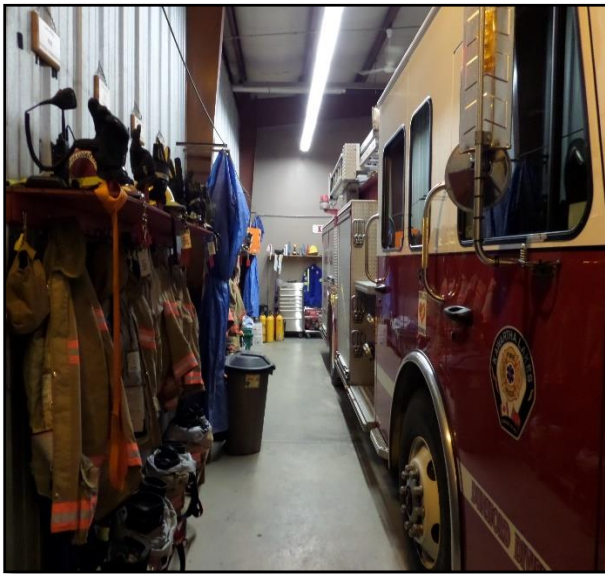
6.1.4 Ops – Station #4



The Ops station is volunteer station that is well utilized, like many of the other stations, but is also stretched to the limit for space. Much of the gear and equipment is stored on the apparatus floor, which is a trip and fall hazard.

Another concern with this station (as with many of the other stations) is the unprotected electrical panels that are susceptible to water spray when the fire trucks or other equipment are being washed.

6.1.5 Dunsford – Station #5



Dunsford is a volunteer fire station with many of the same concerns that have already been noted such as gear and storage space.

Pic 6.1.6 Emily – Station #6

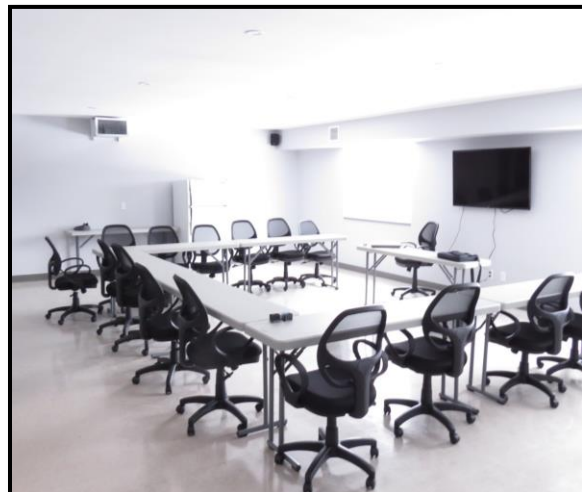


Emily is a volunteer station that is also at maximum storage capacity.

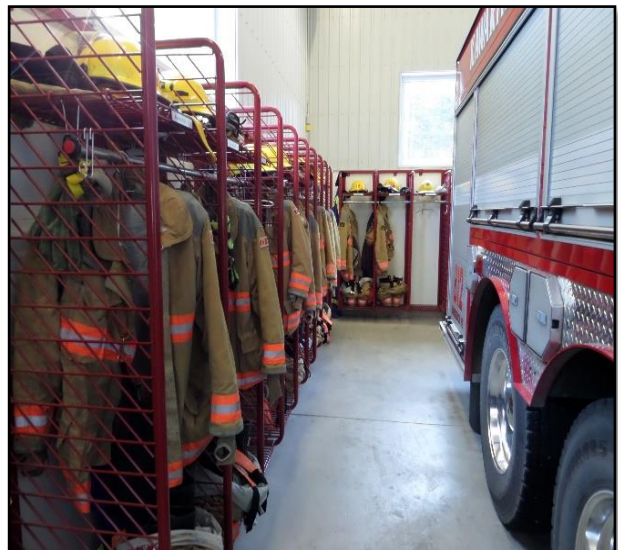
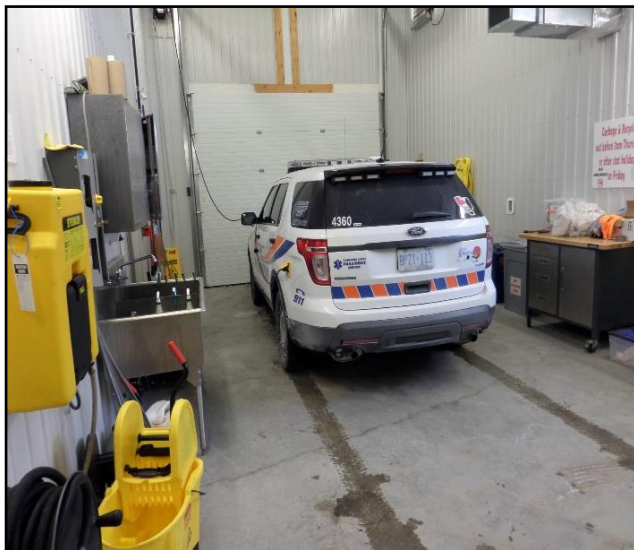
6.1.7 Bethany – Station #7



The new Bethany fire station was built and occupied in 2019. As such, this facility is in very good condition with no concerns to note.

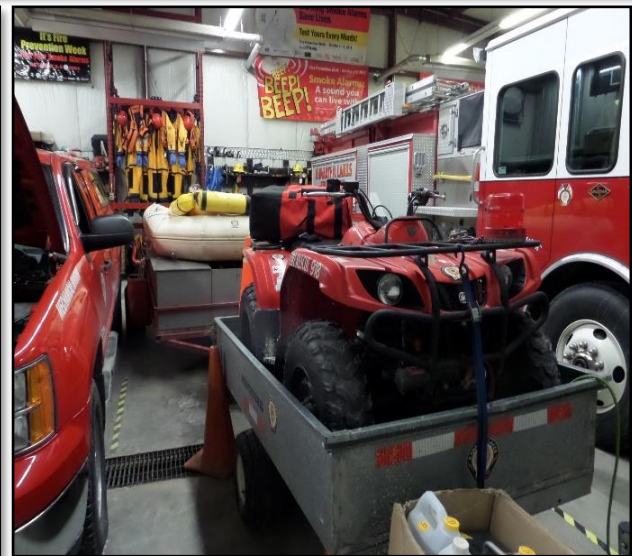
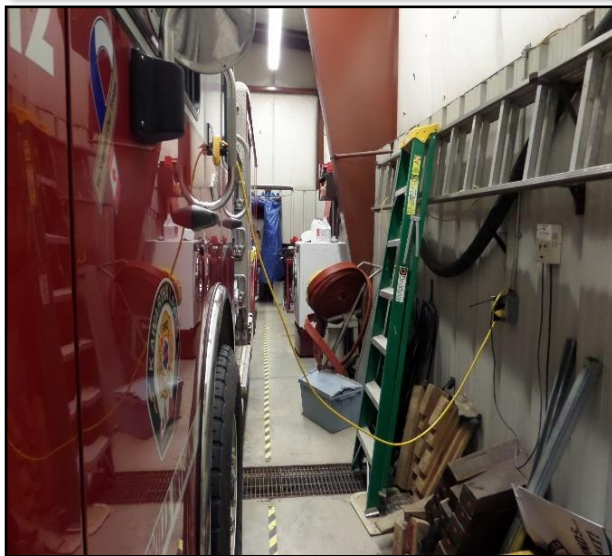


6.1.8 Pontypool – Station #8



The Pontypool fire station is a volunteer station that is relatively new and houses the ambulance service, which makes great utilization of this station's space. This station is well configured and has a ceiling Airmation diesel exhaust system for exhaust removal.

6.1.9 Janetville – Station #9



The Janetville station is a volunteer fire station. Due to the number of vehicles and equipment stored, there is a concern about space and future ability to continue to house this amount of equipment.

6.1.10 Little Britain – Station #10



6.1.11 Oakwood – Station #11



The Little Britain and Oakwood stations are planned for closure, to be consolidated into a new centrally placed fire station within the next couple of years. As such, no comments have been made about either station.

6.1.12 Cameron – Station #12



Cameron is a volunteer fire station that, for the most part, is well configured with some room to spare. This station also has the Airmation diesel exhaust system.

6.1.14 Woodville – Station #14



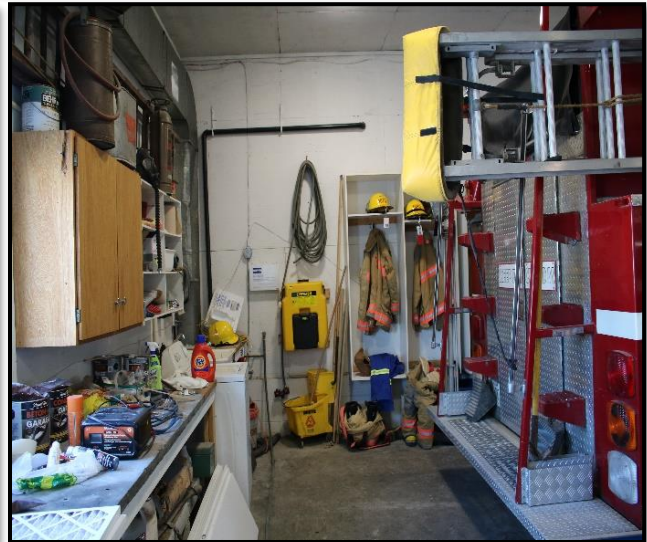
Woodville is a volunteer fire station that is well configured with some room to spare.

6.1.15 Kirkfield – Station #15



Kirkfield is a volunteer fire station that is well utilized by the firefighters. However, as can be seen in the photos, the station has reached space capacity.

6.1.16 Carden – Station #16



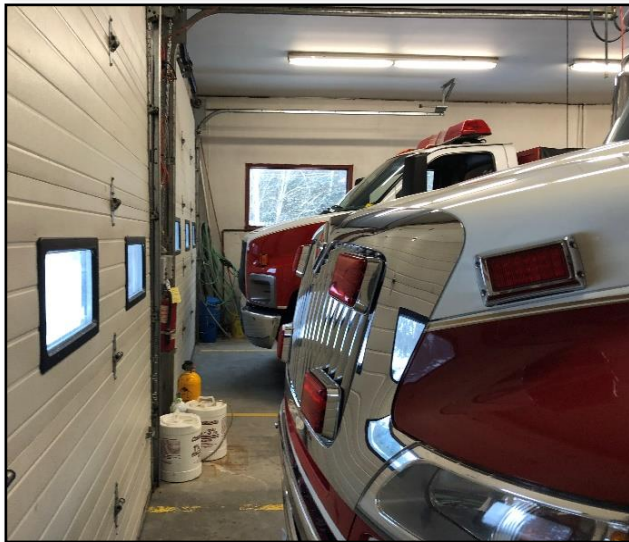
Carden is a volunteer fire station where all available space is being utilized by the firefighters.

6.1.17 Norland – Station #17



Norland Station is a volunteer fire station that is challenged with space for storage of gear and vehicles. There is also a safety hazard regarding exposed electrical panels to water contamination.

6.1.18 Kinmount – Station #18



Kinmount is a volunteer fire station that takes full advantage of the space available to the firefighters for storage and other work areas such as a training room. The station requires showers that are appropriate for firefighters to decontaminate after a call.

6.1.19 Coboconk – Station #19



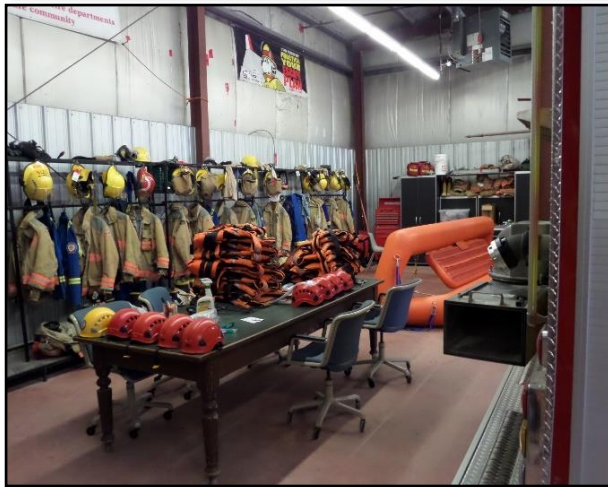
The updated renovations at the Coboconk station that have occurred over 2018 and 2019 have addressed some original concerns that EMT had originally noted. The station is now in good condition.

6.1.20 Burnt River – Station #20



Burnt River Station, as with most others, is a volunteer fire station that is utilizing the station's available space as efficiently as possible.

6.1.22 Fenelon Falls – Station #22



Fenelon Falls is a volunteer fire station that is making the best use of available space.

KLFRS has been doing a good job over the past few years at investing in the fire stations through both new construction (e.g. Pontypool, Bethany), renovations (e.g. Coboconk), and equipment (e.g. Airmation systems). This investment has improved working conditions and health and safety of the firefighters.

A third-party condition assessment has been done for all of the fire stations creating a capital plan for future repairs and renovations.

As previously illustrated, the KLFRS firefighters are doing the best they can with the facilities to ensure proper storage of vehicles, equipment, and firefighting gear. The following information is for consideration of the Fire Chief. It is not meant as a complete engineering/construction assessment. For a more specific review, EMT is recommending that an engineering company be contracted for a more thorough review.

R.R.O. 1991, Regulation 851 – Industrial Establishments

R.R.O. 1990, Regulation 851 Industrial Establishments

Last amendment: [60/18](#).

PART I – SAFETY REGULATIONS

PRE-START HEALTH AND SAFETY REVIEWS

7. (1) In this section “Apparatus” means equipment or a machine or device (appareil”)

PREMISES

11. A floor or other surface used by any worker shall,

(a) be kept free of,

- i. (obstructions,
- ii. hazards, and
- iii. accumulations of refuse, snow or ice; and

(b) not have any finish or protective material used on it that is likely to make the surface slippery. R.R.O. 1990, Reg 851, s. 11

Most fire stations have relied upon drains cut into the floor covered with metal grates (easily accessed floor clean outs) channeling the collected water into an oil/water separator.

Currently some of the stations lack proper drainage or any type of drainage at all (in certain areas) to aid in keeping the apparatus bay surfaces clear of any obstructions or hazards, such as snow, ice and water.

12. Clearances between a moving part of any machine or any material carried by the moving part of the machine and any other machine, structure or thing shall be adequate to ensure that the safety of any worker in the area is not endangered. R.R.O. 1990, Reg. 852, s. 12.

Some of the fire stations lack enough space between the vehicles to allow for safe passage between the vehicles. If a vehicle should be moved without the prior knowledge of the firefighter, an injury could occur.

PART III – INDUSTRIAL HYGIENE

124. Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided. R.R.O. 1990, Reg. 851, s. 124.

125. Where a worker is exposed to a potential hazard of injury to the skin due to contact with a substance, a quick-acting deluge shower shall be provided. R.R.O. 1990, Reg. 851, s. 125.

127. An industrial establishment shall be adequately ventilated by either natural or mechanical means such that the atmosphere does not endanger the health and safety of workers. R.R.O. 1990, Reg. 851, s. 127.

The firefighters can be at risk of exposure not only to themselves but also to the family who supports them when they return home. The current use of space in relation to washing and decontamination facilities should be updated in some of the fire stations to handle the contamination of the firefighters' gear by diesel exhaust fumes and other contaminants.

The following are suggested options to help alleviate this exhaust contamination:

- ***Ensuring natural ventilation is supplied and maintained whenever a vehicle is started and moved***
- ***Separations from the apparatus floor and the training/living areas of the station need to be installed and maintained***
- ***Installation of mechanical ventilation systems designed for fire stations, and***
- ***Adequate clothing storage should be provided for personnel.***

134. Where workers are exposed to a substance that,

(a) is poisonous by ingestion; and

(b) can contaminate the skin,

Shower rooms and individual lockers for street and work clothes shall be provided. R.R.O. 1990, Reg. 851, s. 134.

The following is the list of amenities suggested for proper decontamination areas and medical clean up:

- ***Separate shower and bathroom facilities must be provided. Some of the existing stations were designed to accommodate men only. To avoid potential problems men and women need separate showers and bathrooms. As a temporary fix, a system using prominent signs and an inside lock has worked in some situations.***
- ***Adequate clothing storage should be provided for personnel.***

Multiple waterproof GFI electrical outlets with 25-amp minimum capacity should be installed in the apparatus floor where water contamination is possible.

6.2 Generators/Emergency Power

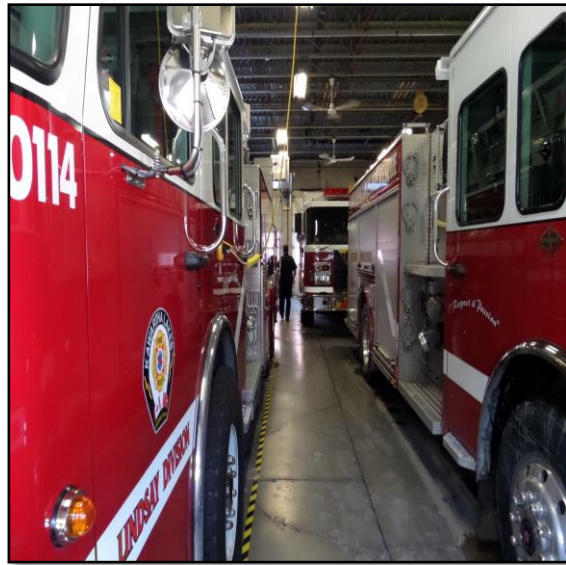
The lack of an emergency power source in the form of a generator was noted at each fire station. As an emergency response facility and a possible gathering place for emergency responders and other assisting agencies; all stations should have a backup power source in the event of a community power failure.

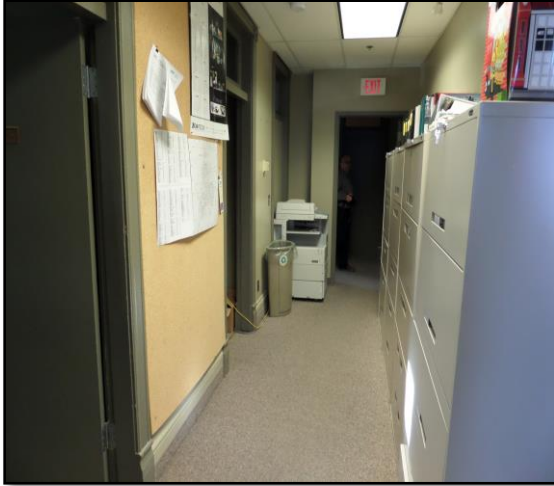
The City should look at a gradual implementation plan for the installation of generators at “key” fire stations. These stations would be the gathering place for firefighters and other emergency personnel during a large spread power outage.

The cost for installing a permanent backup generator system would depend on the type of fuel and number of kilowatts required at each station. However, a general estimate would be anywhere from \$40,000 to \$80,000 per station.

6.3 Headquarters Space Concerns and Related Options

The Fire Department’s headquarters appears to be reaching the end of its useful life with vehicle and staff accommodation needs. The apparatus floor is at full capacity and there is little to no space between the vehicles. Staff are working out of offices in which space is also at maximum functionality (as noted in the following photos).

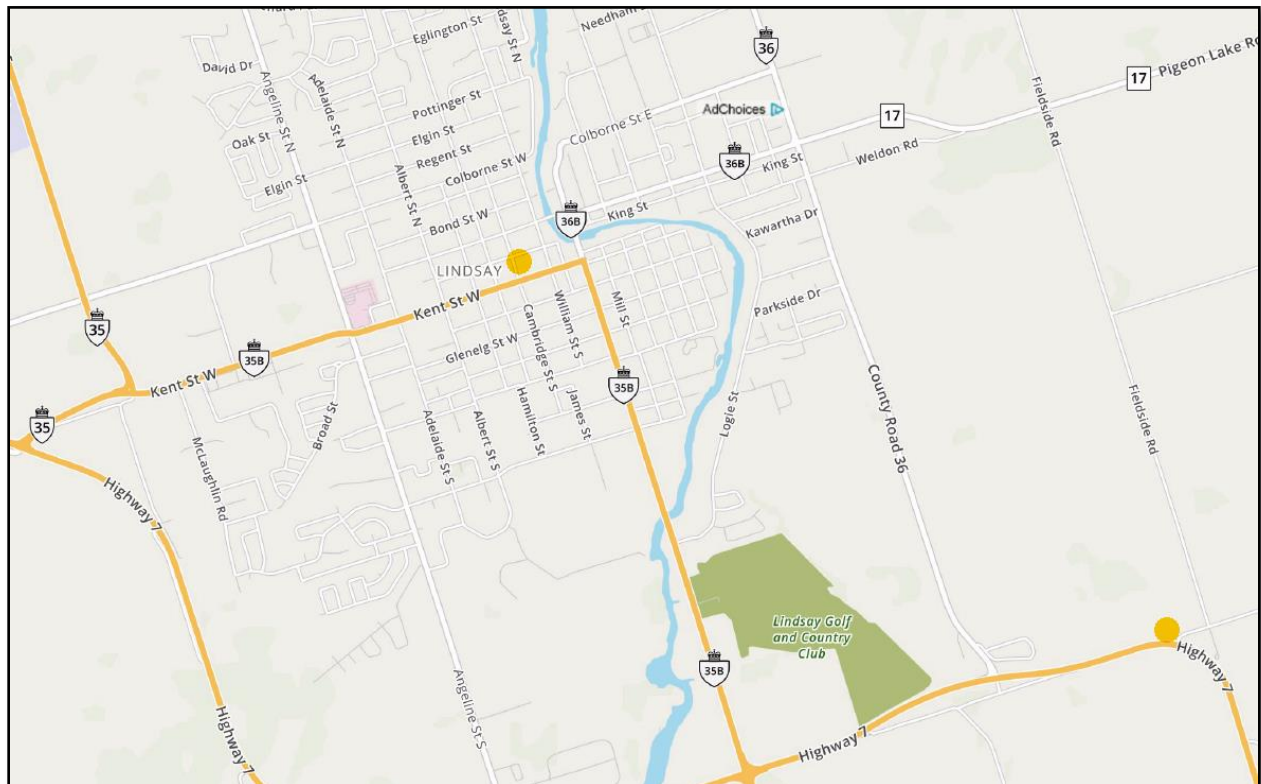




At this time, EMT is recommending two options. The first being that a facilities assessment be conducted by an engineering firm to identify what would be required at the present facility to meet the long-term needs of the fire department.

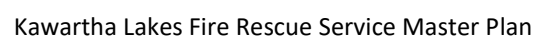
The second option would be the relocation of the headquarters facility. The following map identifies in yellow circles the present locations of Headquarters on Cambridge Street and the approximate location of the Ops Station located on Highway #7.

Figure 10: Locations of Headquarters and Ops Station



EMT is suggesting that the headquarters facility stay close to its present location. This will continue to offer a good level of service to the downtown core of the city. With Headquarters being moved by a kilometer or two, the response capability to the downtown core and fire crew's ability to respond to assist other fire stations will not be adversely affected.

Emergency Management & Training Inc.



The map displays the Greater Toronto Area with three distinct response zones. The red zone, labeled 'New HQ - 13 mins', covers a large area in the northwest. The green zone, labeled 'Ops - 10 mins', covers a large area in the east and south. The blue zone, labeled 'Ops - 10 mins', covers a smaller area in the south. The map includes major roads, water bodies, and a legend in the bottom right corner.

Emergency Management & Training Inc.

Recommendation(s)

14. Recommendations have been identified for some specific fire stations throughout Section 6.
15. It is recommended that consideration be given to either the expansion of Fire Department headquarters to meet the present space demands or a new headquarters be built.
16. The City should look at a gradual implementation plan for the installation of generators at “key” fire stations.

Associated Costs (all costs are approximate)

- Recommendation #14: No associated costs.
- Recommendation #15: For expansion to the present headquarters or a new headquarters, the costs could range from \$1 - 8 million.
- Recommendation #16: \$40-80,000 per station.

Timelines

- Recommendation #14: Short-term (1 – 3 years)
- Recommendation #15: HQ expansion or new HQ timelines would be dependent on approved option (1-10 years).
- Recommendation #16: Short-term (1-3 years)

SECTION 7 – Vehicles and Equipment

- 7.1 Fire Apparatus - New and Replacement Schedules
- 7.2 Maintenance

Section 7: Vehicles and Equipment

7.1 Fire Apparatus - New and Replacement Schedules

When assessing a Fire Department's ability to respond and meet the needs of the community, the Fire Underwriters Survey considers the age of a fire truck as one of its guidelines.

The fire vehicles are on a replacement cycle (depending on the type of vehicle) which keeps them within the FUS recommendations and more importantly creates a standard when it comes to forecasting fire truck replacements.

FUS – Vehicle Replacement Recommendations

Due to the vast area and population that KLFRS covers, it falls in line with both Medium and Small Community related recommendations (see chart below) for vehicle replacement cycles. This allows for a 15 to 20-year replacement cycle, in which the fire vehicle can be utilized as First and Second Line response status.

Table 3: FUS Vehicle Replacement Recommendations

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 conditionally, when apparatus condition is acceptable and apparatus successfully passes required testing 3. Major cities are defined as an incorporated or unincorporated community that has: a. 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 definition of 1st line, 2nd line and Reserve is:

- 1st line is the first fire truck utilized for response at the fire station***
- 2nd line is the next truck to be used if the 1st line unit is tied up at a call, and***
- Reserve is the vehicle kept in the fleet to be put into service if a 1st line or 2nd line vehicle is out of service.***

The FUS is reviewed by insurance companies. Provided that the Fire Department adheres to the recommended replacement timelines through an approved capital replacement schedule, the Department will retain its fire rating for vehicle replacement.

By ensuring that the vehicles are being replaced on a regular schedule, the City is demonstrating due diligence towards ensuring a dependable response fleet for the Fire Department and the community it serves. This in turn will keep the community's fire rating in good stance, which can also reflect on commercial and residential insurance rates.

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*. This standard includes guidance on retirement criteria for fire apparatus. NFPA 1911 recommends that all front-run vehicles are replaced on a 15 to 20-year cycle, depending on the community size.

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. Over the long term, delaying the replacement is inadvisable as it will add to the overall maintenance costs of the apparatus and can have an effect on insurance costs based on the Fire Department's FUS rating.

KLFRS is well-equipped with pumper trucks, rescues, and tankers. There also appears to be a sufficient level of support vehicles and equipment to meet the general needs of the Department. However, it was noted that one of the Department's aerial trucks was retired, but not replaced.

In a community the size of Kawartha Lakes, there is a need for more than one elevated device to ensure proper coverage for the entire community. As noted in the FUS Technical Bulletin in Appendix “E”, Kawartha Lakes has quite a few buildings that meet the need for having more than one elevated device within the Fire Department. The bulletin also noted that a department should have at least one replacement vehicle in case the present aerial unit is out of service.

In cases like this the Fire Department also has the flexibility to purchase a smaller elevated device such as a “tele-squirt” with a 15-meter (50 foot) ladder/master stream system (see photo below).



This type of vehicle can cost as much as \$300,000 less than a larger aerial device. EMT is recommending either the purchase of another aerial truck, or at the very least, the purchase of a tele-squirt. Both options will offer better elevated device coverage for the community.

Replacement Schedules for Vehicles

Replacement schedules are identified in the capital forecast for the fire trucks (Appendix G) and large cost items (e.g. boats, trailers). Currently the Fire Department has approximately \$31.5M in vehicle assets and requires approximately \$1.7M annually to ensure proper replacement funding (see Appendix G).

In relation to vehicle replacement and refurbish, the industry standard for the design and replacement of vehicles is the NFPA 1901. It is recommended that this and other related NFPA standards relating to vehicle design, replacement and refurbishing be utilized.

During the station and equipment review, it was noted that the vehicles and small engines (pumps, generators, etc.) are on a standard replacement cycle and that maintenance and repair work is addressed as quickly as possible by the City or other recommended facilities.

7.2 Maintenance

KLFRS has its own Emergency Vehicle Technician (EVT) to complete repairs and testing to its vehicles and some of the equipment. This EVT is housed at the EVT shop on Emily Park Road. Having such a person on staff is a great advantage to the Department because they can repair and maintain the Department's fleet on a daily basis, rather than having to send out its fire trucks for repairs.

Recommendation(s)

17. It is recommended that the Fire Department purchase another elevated device to replace the unit that was retired. This replacement could be another aerial truck or a tele-squirt unit.

Associated Costs (all costs are approximate)

- Recommendation #17: Approximate cost depending on type of vehicle purchased can range from \$900,000 to \$1.1 million for a tele-squirt, or up to \$1.5 million for an aerial device.

Timelines

- Recommendation #17: Short-term (1 – 3 years)

SECTION 8 – Emergency Management

8.1 Emergency Management Program

Section 8: Emergency Management

8.1 Emergency Management Program

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). The Kawartha Lakes Emergency Response Plan was recently updated and complies with all required legislation. The Fire Chief serves as the Community Emergency Management Coordinator (CEMC) and the Deputy Fire Chiefs serve as alternate CEMCs.

Current Condition

As noted earlier in this document, the FPPA is being updated to include mandatory community risk assessments of the entire community and is required to be completed by 1 July 2024, reviewed annually and updated a minimum of every five years. This is a very labour-intensive project. The Fire Chief is already tasked with the oversight and management of the KLFRS and its 400+ staff, which in itself is a large responsibility.

It should be noted that the 2010 Master Fire Plan also recommended creating an emergency management position.

It is therefore recommended that a Manager of Emergency Management position be created, which has been identified in Recommendation #4.

Recommendation(s)

Refer to Recommendation #4.

SECTION 9 – Mutual and Automatic Aid

9.1 Mutual Aid, Automatic Aid & Fire Protection Agreements

Section 9: Mutual and Automatic Aid

9.1 Mutual Aid, Automatic Aid & Fire Protection Agreements

Mutual and Automatic Aid

KLFRS is a member of the local Mutual Aid group and has positive working relationships with the other fire departments in the surrounding jurisdictions. As such, mutual aid and other required agreements are in place.

The Fire Chief should continue his efforts in being proactive with searching out other opportunities relating to cost effective service measures wherever possible for Kawartha Lakes.

Recommendation(s)

No recommendations for this section.

SECTION 10 – Finance, Budgeting, and Capital Investment Plan

10.1 Operating and Capital Budgets

Section 10: Finance, Budgeting, and Capital Investment Plan

10.1 Operating and Capital Budgets

The KLFRS has a set of annual operating and capital budget/forecasts that fluctuate based on the staffing, programs and equipment that have been identified for replacement.

During the review of the operating and capital budget process, it was found that KLFRS is well organized in both areas. This indicates a strong level of support by Council and the City's senior management team in meeting its service goals.

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

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

Capital Forecasts

It appears there is a standard year replacement cycle for the fire trucks that is based on the FUS recommendations for frontline vehicles. This replacement cycle falls in line with the industry standards of 15 and 20 years, depending on the vehicle's function. As such, the City of Kawartha Lakes and its Fire Department should be commended for its efforts in endeavouring to adhere to this industry standard.

Capital Budget Line Items:

- Vehicle replacement
- Equipment replacement (for large cost items that are not covered in the operating budget)

The City's Asset Management program has the Fire Department's fleet in its forecast (see Appendix G).

Along with the replacement schedule, FUS recommends that there should be at least one spare fire truck for up to every eight related units. For example:

- One pumper truck for every eight (pumpers),
- One spare aerial truck for every eight (aerials),
- One spare tanker truck for every eight (tankers), etc.

A reserve unit should always be available, should one of the primary units go out of service. This still applies if the department has less than eight vehicles.

A final area for the Fire Chief to review is in regard to the reserve funds for equipment. It must be ensured that adequate annual contributions for small equipment, along with apparatus repairs, and contributions for future infrastructure (fire stations) are identified. This is identified in the 10 Year Capital Forecast (Appendix H). This should be monitored annually and if any shortfalls are identified, then the Fire Chief should determine what effect this will have on operations and bring forward any recommendations (for funding adjustments), if necessary.

Based on information received from the Fire Chief, there is a City business plan in place that incorporates all the departments (within Kawartha Lakes) to identify future goals and expectations. This plan does outline funding needs and expectations.

Recommendation(s)

No recommendations for this section.

SECTION 11 – Review of Previous MFP

- 11.1 Building from the Existing Master Fire Plan of 2010
- 11.2 Next Steps

Section 11: Review of Previous MFP

11.1 Building from the Existing MFP of 2010

Listed below are three key recommendations found in the 2010-2017 Master Fire Plan, that have not been completed by the KLFRS. All these recommendations have been supported by EMT within this updated 2018 MFP.

11.1.1 Conclusions and Recommendations From 2010-2017 KLFRS MFP Document

- Page 30 – AD-7: That a new job description be considered for the 2012 budget for the position of “Manager Emergency Management Program” and the position to be filled by an applicant who is a certified “Community Emergency Management Coordinator” (CEMC).
- Page 30 – FS-2: That the operational staffing in the full-time divisions be established as a minimum of 4 firefighters and a maximum of 5 firefighters on duty at all times and that a financial plan be developed to allow for the hiring of two (2) firefighters each year to achieve this level of full-time staffing by 2017.
- Page 51 – Stations Chart: Lindsay Station ranked # 1 priority on the list of recommendations as requiring relocation due to lack of office and workspace for the staff.

11.2 Next Steps

As identified in the 2010-2017 MFP, there is a total of three recommendations still incomplete. These recommendations are supported by EMT as requiring implementation. Once completed, an update on the results of each recommendation should be developed to evaluate if any further efforts are required on any specific item.

KLFRS and its staff are to be commended for achieving this level of completion.

SECTION 12 – Summary of Recommendations

12.1 Conclusion

12.2 Recommendations and Estimated
Costs

Section 12: Summary of Recommendations

12.1 Conclusion

During the review conducted by Emergency Management and Training Inc., it was demonstrated that the full-time staff and firefighters are truly dedicated to the community they serve. Council, CAO, and Fire Chief are sincerely committed to ensuring the safety of the community and the firefighters. Based on the present staffing, equipment and fire stations locations, Kawartha Lakes Fire Rescue Service is endeavoring to offer the most efficient and effective service possible.

All costs and associated timelines are approximate estimates that can be implemented through prioritization between the Fire Chief, CAO, and Council.

An MFP is a 10-year document that should be updated on an annual basis, with a complete review to be conducted at the five-year mark. Due to some of the specific recommendations made in this plan, it is advisable that the Fire Chief view this as a “living document” and conduct more frequent reviews of the recommendations, bringing forward updates to Council, as required.

12.2 Recommendations and Estimated Costs

The following chart provides a more complete overview of the recommendations found throughout this report along with any estimated costs that can be incurred in the associated areas.

Overall, there is a total of 18 recommendations for consideration by the Kawartha Lakes Fire Rescue Service and its Council.

Rec #	Recommendation	Estimated Costs	Suggested Timeline
1	It is recommended that the present Establishing & Regulating By-law be updated and presented to Council for Approval.	Staffing related costs only	Short-term (1-3 years)
2	It is recommended that KLFRRS review present and future staffing needs. The goal is to develop a succession plan that will be based on such things as:	Cost would be dependent length of program and if it can be accomplished in-house or	Short-term (1-3 years) and ongoing

Rec #	Recommendation	Estimated Costs	Suggested Timeline
	- Position to be filled and when it must be filled. - What (if any) are the certification requirements and how long would it take to obtain certification. - What programs can be accomplished in-house or need attendance at the Fire College, Community College or Regional Training Centre.	regionally. Travel and accommodations may also need to be considered.	
3	EMT recommends that the Department continue to actively recruit volunteer firefighters that work rotating shifts or straight nights to improve daytime response numbers by the volunteer firefighters who are not available during daytime hours.	There is no initial cost associated with this recruitment since it will not increase volunteer numbers	Short-term (1-3 years) and ongoing
4	It is recommended that a Manager of Emergency Management position be created that will oversee emergency planning and preparedness along with the development and maintenance of the Community Risk Assessment for the City of Kawartha Lakes.	\$100,000 to \$120,000 per year	Short-term (1-3 years)
5	It is recommended that the Fire Department meet with local community groups to form a partnership in relation to organizing fire safety and public education events that can be tailored to the unique needs and challenges within the community, along with more use of electronic media for public education awareness. Further, the Fire Department should explore grants as well as other funding opportunities (e.g. donations from community service groups) for targeted fire safety and public education events. An example of a community group would be the Lion's Club, or a local community/neighbourhood group, etc.	No cost associated – staff time only	Short-term (1-3 years) and ongoing
6	It is recommended that KLFRS continue with its five-year staffing plan in which the addition of	\$120,000 per position	Short to Mid-term

Rec #	Recommendation	Estimated Costs	Suggested Timeline
	another District Chief or Platoon Chief position is to be created and incorporated into the staffing and organizational structure of KLFRS.		(1-6 years) and ongoing
7	It is recommended that the FPD, through the utilization of the FUS chart as a benchmark, develop a plan on what the division can accomplish with its present staffing compliment, along with options for increasing inspection frequencies (through utilization of fire suppression staff) and ultimately what is needed to meet the FUS benchmarks. This review will help to determine the level of risk within the community, along with the level of fire prevention staffing needs and/or additions to the division. This addition could come in the form of adding the position of Chief Fire Prevention Officer or another Fire Prevention/Public Education Officer.	No cost associated – staff time only	Short-term (1-3 years) and ongoing
8	To verify the Training Division is meeting related NFPA (and other) training program recommendations, the Training Officer (or person assigned to monitor training) should identify: - What training programs are required in relation to the services that KLFRS is providing, along with what training programs need to be implemented or enhanced based on the new Provincial regulations - The number of hours that are required to meet each of those training needs - Resources required to accomplish this training - Joint partnerships with bordering fire departments and private organizations that can be entered into to achieve the	No cost associated – staff time only	Short-term (1-3 years) and ongoing

Rec #	Recommendation	Estimated Costs	Suggested Timeline
	training requirements identified by the Training Officer/Manager An annual program outline at the start of each year to be presented to the Fire Chief, with noted goals and expectations, which are measured and reported on in relation to completion success rate at the end of each year		
9	It is recommended that KLFRS hire an additional Training Officer position, to oversee/coordinate training programs such as the certification of firefighters and officers. This position would assist with the coordination of programs to ensure consistence throughout the Department. A more formal station and/or district training coordinator program to assist with the implementation of training programs and the delivery of them is also recommended.	\$115,000 along with associated stipends for the district training coordinator positions	Short-term (1-3 years)
10	To enhance training, it is recommended that KLFRS purchase Mobile Live Fire Training Unit and place it at the training centre to accommodate training needs of the firefighters.	\$300,000	Mid-term (4-6 years)
11	It is recommended that Council support an increase in staffing of the present full-time crews to ensure a minimum response crew of four per fire truck out of the Lindsay Station.	\$400,000 per year	Short-term (1-3 years) and ongoing
12	It is recommended that continued enhancement of the full-time Fire Officer resources be incorporated into an annual fire prevention program on a more formal basis. To accomplish this, all full-time officers should be trained and certified to at least: - NFPA 1031 – Fire Inspector I - NFPA 1035 – Fire and Life Safety Educator I By having all full-time Officers trained to the noted levels, KLFRS will have a greater number of	Staff time based on training program	Short-term (1-3 years) and ongoing

Rec #	Recommendation	Estimated Costs	Suggested Timeline
	resources to draw upon in its public fire safety education and inspection programs.		
13	The present dispatching agreement with Kawartha Lakes Police Service should be updated to include performance measures as per the NFPA 1221 standard.	No costing noted at this time	Short-term (1-3 years) with ongoing review
14	Recommendations have been identified for some specific fire stations throughout Section 6.	No associated costs	Short-term (1-3 years)
15	It is recommended that consideration be given to either the expansion of Fire Department headquarters to meet the present space demands or a new headquarters be built.	For expansion to the present headquarters or a new headquarters, the costs could range from \$1 - 8 million	HQ expansion or new HQ timelines would be dependent on approved option (1-10 years)
16	The City should look at a gradual implementation plan for the installation of generators at “key” fire stations.	\$40,000 to \$80,000 per station	Short-term (1-3 years)
17	It is recommended that the Fire Department purchase another elevated device to replace the unit that was retired. This replacement could be another aerial truck or a tele-squirt unit.	\$900,000 to \$1.5 million	Short-term (1-3 years)

SECTION 13 – Appendices

Appendix A - Definitions and References

Appendix B - Staff Surveys

Appendix C - Community Surveys

Appendix D - Public Fire Safety Guideline -
Recruitment and Retention of Volunteer
Firefighters

Appendix E – FUS Aerial Bulletin

Appendix F– Call and Response Data for
2017and 2016

Section 13: Appendices

Appendix A – Definitions and References

Automatic Aid Agreements – Fire Protection and Prevention Act, 1997

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).
 - *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.*

Commission of Fire Accreditation International Community Definitions

- Suburban – an incorporated or unincorporated area with a total population of 10,000 to 29,999 and/or any area with a population density of 1,000 to 2,000 people per square mile
- Rural – an incorporated or unincorporated area with a total population of 10,000 people, or with a population density of less than 1,000 people per square mile.

National Fire Protection Association Documents

- NFPA 1201 - Standard for Providing Fire and Emergency Services to the Public
- NFPA 1500 – Standard on Fire Department Occupational Safety and Health Program, 2013 editions
- NFPA 1720 – Standard for the Organization and Deployment of Fire Suppression Operations, Medical Operations, and Special Operations to the Public by Career Departments
- 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.

Municipal Responsibilities (FPPA 1997)

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.

Mutual Aid

- a) Mutual aid plans allow a participating Fire Department to request assistance from a neighbouring Fire Department authorized to participate in a plan approved by the Fire Marshal.
- b) Mutual aid is not immediately available for areas that receive fire protection under an agreement. The municipality purchasing fire protection is responsible for arranging an acceptable response for back-up fire protection services. In those cases where the emergency requirements exceed those available through the purchase agreement and the backup service provider, the mutual aid plan can be activated for the agreement area.

Public Fire Safety Guidelines

- PFSG 04-40A-12, Fire Prevention and Public Safety Education; Simplified Risk Assessment March 2001
- PFSG 04-41-12, Fire Prevention and Public Safety Education; Community Fire Safety Officer/Team, January 1998
- PFSG 04-08-13 on Fire Station Location, September 2004

Shared Responsibilities (FPPA 1997)

FPPA notes that;

1. Two or more municipalities may appoint a community fire safety officer or a community fire safety team or establish a Fire Department for the purpose of providing fire protection services in those municipalities

Volunteer Firefighter (FPPA 1997)

- Means a Firefighter who provides fire protection services either voluntarily or for a nominal consideration, honorarium, training or activity allowance. (“pompier volontaire”) 1997, c. 4, s. 1 (1); 2001, c. 25, s. 475 (1).”

Appendix B – Staff Surveys

The following survey was presented to internal stakeholders:

Internal Survey

Emergency Management & Training Inc. (EMT) have been hired to prepare a Fire Master Plan for the City of Kawartha Lakes Fire Rescue Service. Your feedback is necessary in assisting EMT in developing this document for the fire rescue service. The intent of this document is to provide a 10-year community-driven master plan to guide operational improvements and enhance how services are provided throughout the community.

Please take the time to complete this survey. Your confidential responses will help to ensure focused action that continues to meet the diverse needs of our staff and residents.

Questions:

1. What are the things that make you most proud of the Kawartha Lakes Fire Rescue Service – for example, the level of professionalism, community involvement or making a positive difference within the community?

2. How do you think most people living in Kawartha Lakes perceive the Kawartha Lakes Fire Rescue Service?

3. What would you say are the top three issues facing the Kawartha Lakes Fire Rescue Service today?

4. There are nine core services that the Kawartha Lakes Fire Rescue Service delivers. Which services do you believe are most valued by the community? Please rank in order of priority from 1 (most important) to 9 (least important). *Please use each number **only once** and use all nine numbers.*

- ___ Fire fighting
- ___ Rescue (motor vehicle)
- ___ Fire origin and cause investigations
- ___ Fire prevention and safety inspections
- ___ Community outreach / Public education
- ___ Hazardous materials and technical rescue response (water/ice rescue)
- ___ Public assist / Non-emergency responses
- ___ Emergency planning
- ___ Medical assist and response

5. Are there any other services that you believe the Kawartha Lakes Fire Rescue Service should provide and why?

6. What improvements does the Kawartha Lakes Fire Rescue Service need to make to its services to be more efficient and what do you believe would be the outcome by implementing these efficiencies?

7. If it were up to you, what would the Service be like 10 years from today and why?

8. Are there any other comments/suggestions that you would like to add that would help to improve the services the Kawartha Lakes Fire Rescue Service delivers to the community and to the firefighters?

Thank you for completing this survey. Your feedback is greatly appreciated and will help to shape future service delivery efforts.

Appendix C – Community Surveys

During the MFP process, feedback was gathered from the community in the form of an online survey and a meeting with those from the community who have utilized the services of the KLFRS.

The following survey was presented to the external stakeholders:

External Survey

Kawartha Lakes Fire Rescue Service has a proud tradition of assisting residents and effectively responding to emergency situations.

The Kawartha Lakes Fire Rescue Service is made up of full-time staff, and volunteer fire fighters. KLFRS responds to a variety of calls that may include general assistance/information inquiries, to responding to emergency incidents such as motor vehicle collisions, fires or medical emergencies.

In our ongoing efforts to ensure that we are meeting the needs of our community we are creating a 10-year community-driven fire service excellence review to guide operational improvements and enhance how the service is provided throughout the community.

To accomplish this, we have engaged Emergency Management & Training Inc. (EMT), to assist us with this initiative. EMT is a consulting firm that has worked with many fire departments in developing their fire master plans, station assessments and fire service reviews across Canada. Therefore, most of all, we need your help. So please take the time to complete this survey. Your confidential responses will help to ensure focused action that continues to meet the diverse needs of all residents. The survey will be available until _____.

Questions:

1. What is your general impression of the Kawartha Lakes Fire Rescue Service in relation to its level of professionalism, community safety, education and fire prevention awareness programs?

- a) Have you been approached by Kawartha Lakes Fire Rescue Service staff in relation to their public education or any other fire safety program, and if so, how did you find this interaction?

2. How important are the following statements to you:

	Extremely important	Very important	Important	Not very important	Not important at all
How quickly the Fire Department gets to me if I have an emergency	☐	☐	☐	☐	☐
Whether the Fire Department will visit my home to give me safety advice and/or fit smoke alarms	☐	☐	☐	☐	☐
How much the fire services costs me as a tax payer	☐	☐	☐	☐	☐
How well the Fire Department works with other agencies to provide wider community safety services	☐	☐	☐	☐	☐
How often the Fire Department consults me about their services	☐	☐	☐	☐	☐
How often the Fire Department provides community training opportunities (e.g. fire extinguisher training; school safety programs; older and wiser program; smoke alarms; fire escape planning)	☐	☐	☐	☐	☐
How visible the Fire Department is at local community events	☐	☐	☐	☐	☐
Contacting assistance services (such as Red Cross or family services) after an emergency, as required	☐	☐	☐	☐	☐
Timeliness to any request for services or assistance from the Fire Department	☐	☐	☐	☐	☐
Purchasing and maintaining new and applicable equipment to ensure the department has reliable up to date equipment to safely deliver its services	☐	☐	☐	☐	☐
Continued and relevant training to meet the needs of the community	☐	☐	☐	☐	☐

3. What do you think are the top three issues facing our fire service today?

4. There are nine core services delivered by the Kawartha Lakes Fire Rescue Service. Which services are most important to you? Please rank in order of priority from 1 (most important) to 9 (least important). *Please use each number **only once** and use all nine numbers.*

- ___ Fire fighting
- ___ Rescue (i.e. motor vehicle accidents)
- ___ Fire/Arson investigations
- ___ Fire prevention and safety inspections
- ___ Community outreach / Public education
- ___ Hazardous materials (i.e. gas or chemical spills) and technical rescue response (i.e. water rescues)
- ___ Public assistance requests / Non-emergency responses
- ___ Emergency management and planning
- ___ Medical assist and response

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

6. Over the next 10 years, if you could implement up to three things to improve how the current services are provided by the Kawartha Lakes Fire Rescue Service, what would those things be?

7. Have you directly received service from the Kawartha Lakes Fire Rescue Service?

- ☐ Yes
- ☐ No (If no, skip to question 9)

8. Could you share some details of your experience and any recommendations for service improvements?

9. Would you be willing to participate in a special focus group to discuss improvements to the fire service?

- ☐ Yes
- ☐ No

10. Please provide your name and contact information so we can get in touch with you about participating in a focus group.

Thank you for completing this survey. Your feedback is greatly appreciated and will help to shape future service delivery efforts.

If you have any questions about this survey, please e-mail Lyle Quan, Consultant for Emergency Management & Training Inc. at lquan@emergencymgt.com

Appendix D – PFSG - Recruitment and Retention of Volunteer Firefighters

Volunteer Fire Service Personnel Recruitment and Retention

Public Fire Safety Guidelines	Subject Coding PFSG 04-84-13
Section Fire Administration	Date October 2006
Subject Volunteer Fire Service Personnel Recruitment and Retention	Page

Scope and Application:

This guideline provides municipal officials and Fire Chiefs of volunteer and composite fire services with a general overview of principles to consider in the recruitment and retention of volunteers.

There are many factors that contribute to the success of a volunteer recruitment and retention program. These include implementing organized marketing, recruitment, selection, hiring, training and retention plans.

Establishing and following a formal recruitment and retention program offers fire services the opportunity to increase the likelihood of finding, and keeping, the right people, doing the right tasks, at the right time.

Definition of Volunteer:

According to the *Fire Protection and Prevention Act* 1997, a volunteer firefighter is defined as “a Firefighter who provides fire protection services either voluntarily or for a nominal consideration, honorarium, training or activity allowance. (“pompier volontaire”) 1997, c. 4, s. 1 (1); 2001, c. 25, s. 475 (1).”

The majority of Fire Departments in Ontario (450 out of 478) utilize the services of volunteer fire service personnel. Recognized for their commitment and generosity, saving residents in Ontario more than an estimated one billion dollars annually, these professionals strive to provide skilled, competent and caring service.

Fire services that rely on volunteers to comprise, or enhance, their staffing capability continue to face the challenge of recruiting and retaining a sufficient number of capable and

experienced personnel. This impacts on the effective, efficient, safe and timely delivery of fire protection services.

Recruitment and Retention Program:

The Benefits

A coordinated, organized program demonstrates:

- how seriously the leadership takes the services provided and the individuals who provide that service,
- sound risk management principles,
- proactive vs. reactive leadership within the Department, and
- leadership's commitment to recognize volunteers, families and employers who support volunteerism.

It identifies:

- shortfalls and availability of volunteers in the community and,
- the number, type and quality of volunteers required to meet current or future needs.

It allows planning for:

- recruitment and selection,
- retention and succession, and
- training and development of volunteers.

Responsibility for Recruitment

Recruiting and retaining volunteers does take effort. Creating a committee within the municipality and assigning specific tasks can create opportunities for others besides the leadership to contribute to the growth of the fire service and allows for a more concentrated effort.

Annual Recruitment and Retention Plan

An annual recruitment and retention plan is a cyclic, ongoing process that will assist the fire service in planning and focusing its efforts. It should be a logical consideration of the time of the year, changing commitments



throughout the seasons, weather, and psychological impact of seasons, milestones in the Department, annual events and other trends. This will prevent the Department from coming up short in membership by not having good candidates to replace those leaving.

Policies and Guidelines

Fire service leaders benefit from having the necessary policies and procedures to ensure a safe, lawful, organized, empowering, non-discriminatory environment for their volunteers. No matter how large or small a Department, policies and operating guidelines are essential management tools that set the standard for conduct and provide guidance for action. It is suggested that existing municipal policies, if available, be referenced.

Evaluation

Evaluation of the recruitment and retention program is necessary to identify strengths and areas to improve. It is an ongoing process that is built into all the components of the program.

Components in the Recruitment and Retention Cycle:

Pre-Recruitment

Prior to recruiting, it would be beneficial to conduct a needs assessment to determine the role and number of volunteers required. Completing a Community Profile will determine community members who may best fit those roles. Answering these questions prior to recruiting enables the fire services to target specific individuals for specific roles and may increase the chance of success.

Recruitment

In order to promote diversity and involve volunteers with different skill sets, knowledge and perspectives, more than one recruitment method is necessary. Regardless of the method and knowing the Department is seeking the best possible candidates, effective marketing and communication strategies are necessary to draw the interest of potential volunteers.

Selection and Hiring

Once received and acknowledged, all applicants require screening to determine those who will move on to the next step in the hiring process.

The Fire Service takes great pride in service to communities. A screening process is essential in order demonstrate that the volunteers serve in the community's best interest. The leadership

will have to decide which screening methods and tools are appropriate for their Department and should ensure that they reflect human rights and privacy legislation and existing municipal policies.

Upon selection, a written agreement between the volunteer and the fire department will ensure that expectations and responsibilities for each side are clearly identified and agreed to.

Orientation and Probation

Fire Departments and their volunteers will benefit from having an organized system to orient, train and advance recruits. One of the most successful and safe approaches for developing volunteers and establishing a commitment is to initially offer specific tasks that allow them to become involved in a limited way, followed by opportunities to grow into a role with more responsibilities.

Ongoing Recruitment Efforts

Successful recruitment efforts should be ongoing throughout the year to ensure that there is a waiting list of interested individuals to draw from.

Ongoing Retention Efforts

Recruiting and training new volunteers is just the beginning. The long-term challenge is to create an environment in which individuals continue to be motivated, interested, challenged, supported and satisfied with the work they've accomplished. Factors that contribute to this environment include leadership practices, operating guidelines, recognition initiatives, support efforts, teamwork and fellowship.

Exit Processes

When an individual leaves the Fire Department, it is a good opportunity to solicit input to determine the Department's strengths and opportunities for improvement. Exit processes should reflect understanding that, whether leaving on a positive or negative note, the volunteer and the fire department deserve fair and respectful treatment.

Resource Book:

The Application of Recruitment and Retention Principles:

The Volunteer Recruitment and Retention Resource Book that supports this guideline, was developed by the Ontario Fire Marshal's Office, in collaboration with representatives from the

Ontario Fire Service.

This resource describes effective practices and strategies for recruitment and retention of Volunteer Fire Service personnel. It also provides a compilation of tools and templates that can be used to support the best practice or strategy. These may be photocopied or edited to meet the needs of the individual Fire Service.

A CD-ROM and printed copy of this resource has been made available to all Fire Services that maintain a Volunteer complement. It can also be accessed and downloaded from the Ontario Fire Marshal's public access website <http://www.mcscs.jus.gov.on.ca/>.

Codes, Standards & Best Practices:

Codes, standards and best practices resources are available to assist in establishing local policy. All are available at <http://www.mcscs.jus.gov.on.ca/>.

Volunteer Resource Management

The following resources and links describe effective practices and strategies for Volunteer Resource Management. The principles and topics can be applied to the fire service.

The Canadian Code for Volunteer Involvement <http://www.Volunteer.ca>
HR Council for the Voluntary and Non-Profit Sector <http://www.hrvs-rhsbc.ca>
Knowledge Development Centre, Canada Volunteerism Initiative <http://www.kdc-cdc.ca>

Please feel free to copy and distribute this document. We ask that the document not be altered in any way, that the Office of the Fire Marshal be credited and that the documents be used for non-commercial purposes only.

Additional References:

See also:

Office of the Fire Marshal's Public Fire Safety Guidelines

The following guidelines can be referenced when conducting a needs assessment to determine the role, quantity and characteristics of Volunteers required by the fire service.

[04-08A-03](#) Optimizing Rural Emergency Response

[04-12-13](#) Core Services (Response and Support) and Associated Guidelines

[04-40A-03](#) Simplified Risk Assessment

Appendix E – FUS Aerial Bulleting



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).

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Exception: When the height of the tallest building is 15.2 metres (50 feet) or less no credit shall be given for an aerial ladder, elevating platform or elevating stream device that has a length less than 15.2 metres (50 feet). This provision is necessary to ensure that the water stream from an elevating stream device has additional "reach" for large area, low height buildings, and the aerial ladder or elevating platform may be extended to compensate for possible topographical conditions that may exist. See Fire Underwriters Survey - Table of Effective Response (attached).

Furthermore, please find the following information regarding communities' need for aerial apparatus/ladder companies within the National Fire Protection Association.

NFPA

Response Capabilities: The fire department should be prepared to provide the necessary response of apparatus, equipment and staffing to control the anticipated routine fire load for its community.

NFPA Fire Protection Handbook, 20th Edition cites the following apparatus response for each designated condition:

HIGH-HAZARD OCCUPANCIES (schools, hospitals, nursing homes, explosive plants, refineries, high-rise buildings, and other high-risk or large fire potential occupancies):

At least four pumpers, two ladder trucks (or combination apparatus with equivalent capabilities), two chief officers, and other specialized apparatus as may be needed to cope with the combustible involved; not fewer than 24 firefighters and two chief officers.

MEDIUM-HAZARD OCCUPANCIES (apartments, offices, mercantile and industrial occupancies not normally requiring extensive rescue or firefighting forces):

At least three pumpers, one ladder truck (or combination apparatus with equivalent capabilities), one chief officer, and other specialized apparatus as may be needed or available; not fewer than 16 firefighters and one chief officer.

LOW-HAZARD OCCUPANCIES (one-, two-, or three-family dwellings and scattered small businesses and industrial occupancies):



At least two pumpers, one ladder truck (or combination apparatus with equivalent capabilities), one chief officer, and other specialized apparatus as may be needed or available; not fewer than 12 firefighters and one chief officer.

In addition to the previous references, the following excerpt from the 2006 BC Building Code is also important to consider when selecting the appropriate level of fire department response capacity and building design requirements with regard to built-in protection levels (passive and active fire protection systems).

Excerpt: National Building Code 2012

A-3 Application of Part 3.

In applying the requirements of this Part, it is intended that they be applied with discretion to buildings of unusual configuration that do not clearly conform to the specific requirements, or to buildings in which processes are carried out which make compliance with particular requirements in this Part impracticable. The definition of “building” as it applies to this Code is general and encompasses most structures, including those which would not normally be considered as buildings in the layman’s sense. This occurs more often in industrial uses, particularly those involving manufacturing facilities and equipment that require specialized design that may make it impracticable to follow the specific requirements of this Part. Steel mills, aluminum plants, refining, power generation and liquid storage facilities are examples. A water tank or an oil refinery, for example, has no floor area, so it is obvious that requirements for exits from floor areas would not apply. Requirements for structural fire protection in large steel mills and pulp and paper mills, particularly in certain portions, may not be practicable to achieve in terms of the construction normally used and the operations for which the space is to be used. In other portions of the same building, however, it may be quite reasonable to require that the provisions of this Part be applied (e.g., the office portions). Similarly, areas of industrial occupancy which may be occupied only periodically by service staff, such as equipment penthouses, normally would not need to have the same type of exit facility as floor areas occupied on a continuing basis. It is expected that judgment will be exercised in evaluating the application of a requirement in those cases when extenuating circumstances require special consideration, provided the occupants’ safety is not endangered.

The provisions in this Part for fire protection features installed in buildings are intended to provide a minimum acceptable level of public safety. It is intended that all fire protection features of a building, whether required or not, will be designed in conformance with good fire protection engineering practice and will meet the appropriate installation requirements in relevant standards. Good design is necessary to ensure that the level of public safety established by the Code requirements will not be reduced by a voluntary installation.



Firefighting Assumptions

The requirements of this Part are based on the assumption that firefighting capabilities are available in the event of a fire emergency. These firefighting capabilities may take the form of a paid or volunteer public fire department or in some cases a private fire brigade. If these firefighting capabilities are not available, additional fire safety measures may be required.

Firefighting capability can vary from municipality to municipality. Generally, larger municipalities have greater firefighting capability than smaller ones. Similarly, older, well established municipalities may have better firefighting facilities than newly formed or rapidly growing ones. The level of municipal fire protection considered to be adequate will normally depend on both the size of the municipality (i.e., the number of buildings to be protected) and the size of buildings within that municipality. Since larger buildings tend to be located in larger municipalities, they are generally, but not always, favoured with a higher level of municipal protection.

Although it is reasonable to consider that some level of municipal firefighting capability was assumed in developing the fire safety provisions in Part 3, this was not done on a consistent or defined basis. The requirements in the Code, while developed in the light of commonly prevailing municipal fire protection levels, do not attempt to relate the size of building to the level of municipal protection. The responsibility for controlling the maximum size of building to be permitted in a municipality in relation to local firefighting capability rests with the municipality. If a proposed building is too large, either in terms of floor area or building height, to receive reasonable protection from the municipal fire department, fire protection requirements in addition to those prescribed in this Code, may be necessary to compensate for this deficiency. Automatic sprinkler protection may be one option to be considered.

Alternatively, the municipality may, in light of its firefighting capability, elect to introduce zoning restrictions to ensure that the maximum building size is related to available municipal fire protection facilities. This is, by necessity, a somewhat arbitrary decision and should be made in consultation with the local firefighting service, who should have an appreciation of their capability to fight fires.

The requirements of Subsection 3.2.3. are intended to prevent fire spread from thermal radiation assuming there is adequate firefighting available. It has been found that periods of from 10 to 30 minutes usually elapse between the outbreak of fire in a building that is not protected with an automatic sprinkler system and the attainment of high radiation levels. During this period, the specified spatial separations should prove adequate to inhibit ignition of an exposed building face or the interior of an adjacent building by radiation. Subsequently, however, reduction of the fire intensity by firefighting and the protective wetting of the exposed building face will often be necessary as supplementary measures to inhibit fire spread.



In the case of a building that is sprinklered throughout, the automatic sprinkler system should control the fire to an extent that radiation to neighbouring buildings should be minimal. Although there will be some radiation effect on a sprinklered building from a fire in a neighbouring building, the internal sprinkler system should control any fires that might be ignited in the building and thereby minimize the possibility of the fire spreading into the exposed building. NFPA 80A, "Protection of Buildings from Exterior Fire Exposures," provides additional information on the possibility of fire spread at building exteriors.

The water supply requirements for fire protection installations depend on the requirements of any automatic sprinkler installations and also on the number of fire streams that may be needed at any fire, having regard to the length of time the streams will have to be used. Both these factors are largely influenced by the conditions at the building to be equipped, and the quantity and pressure of water needed for the protection of both the interior and exterior of the building must be ascertained before the water supply is decided upon. Acceptable water supplies may be a public waterworks system that has adequate pressure and discharge capacity, automatic fire pumps, pressure tanks, manually controlled fire pumps in combination with pressure tanks, gravity tanks, and manually controlled fire pumps operated by remote control devices at each hose station.

For further information regarding the acceptability of emergency apparatus for fire insurance grading purposes, please contact:

Western Canada	Quebec	Ontario	Atlantic Canada
Fire Underwriters Survey 3999 Henning Drive Burnaby, BC V5C 6P9 1-800-665-5661	Fire Underwriters Survey 255, boul. Crémazie E Montreal, Quebec H2M 1M2 1-800-263-5361	Fire Underwriters Survey 175 Commerce Valley Drive, West Markham, Ontario L3T 7P6 1-800-268-8080	Fire Underwriters Survey 238 Brownlow Avenue, Suite 300 Dartmouth, Nova Scotia B3B 1Y2 1-877-634-8564

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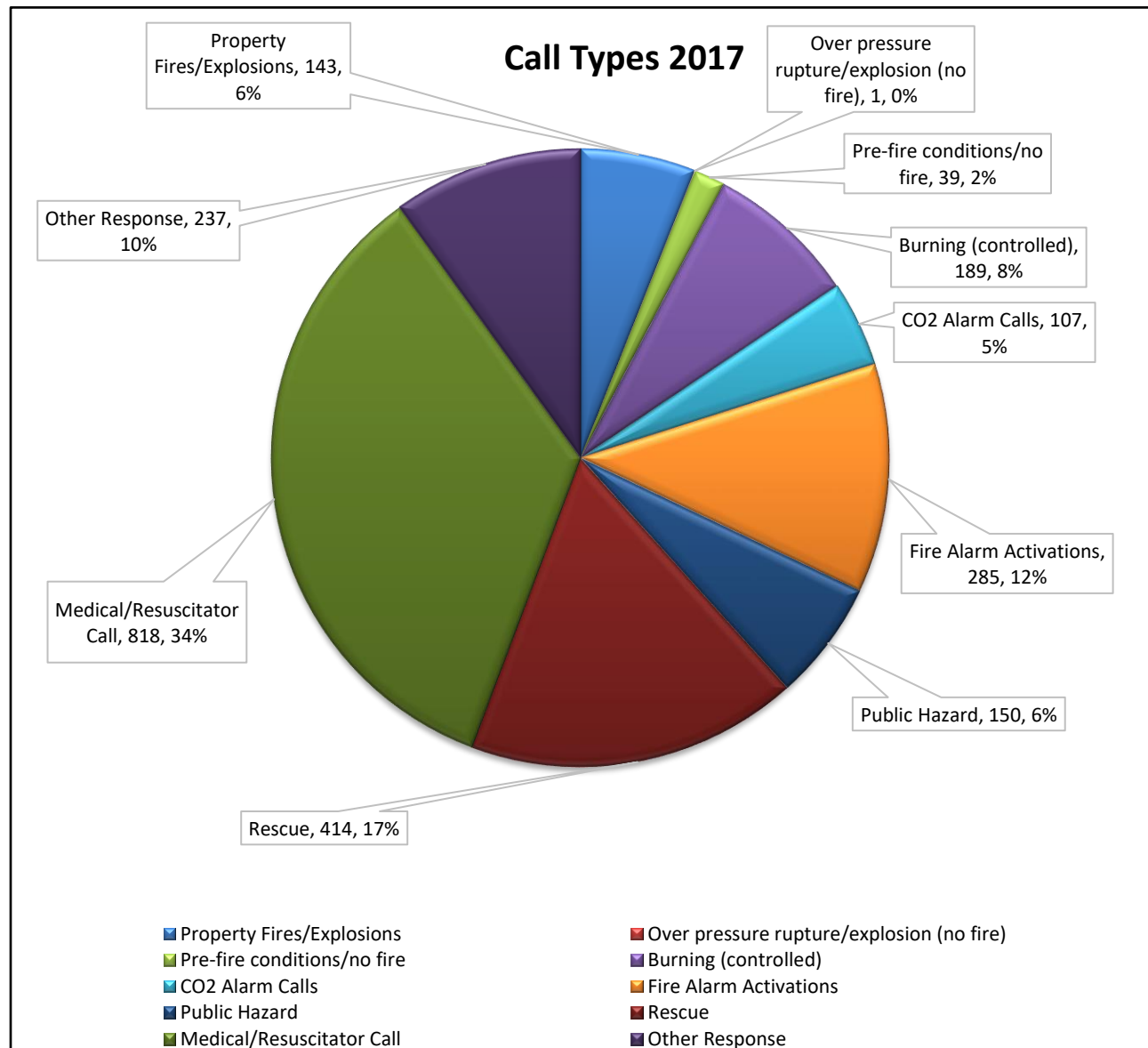
fus@optaintel.ca

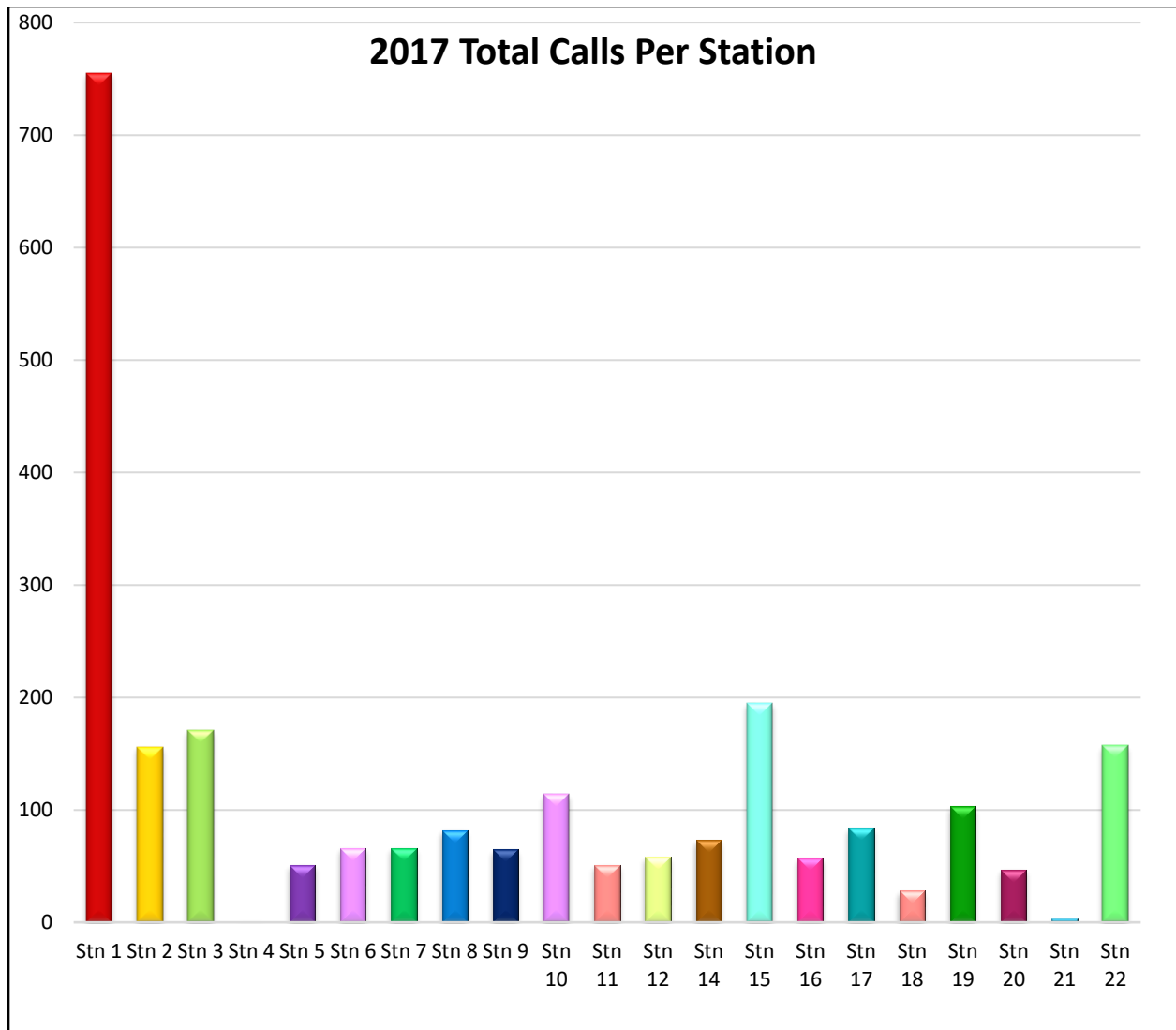
fireunderwriters.ca

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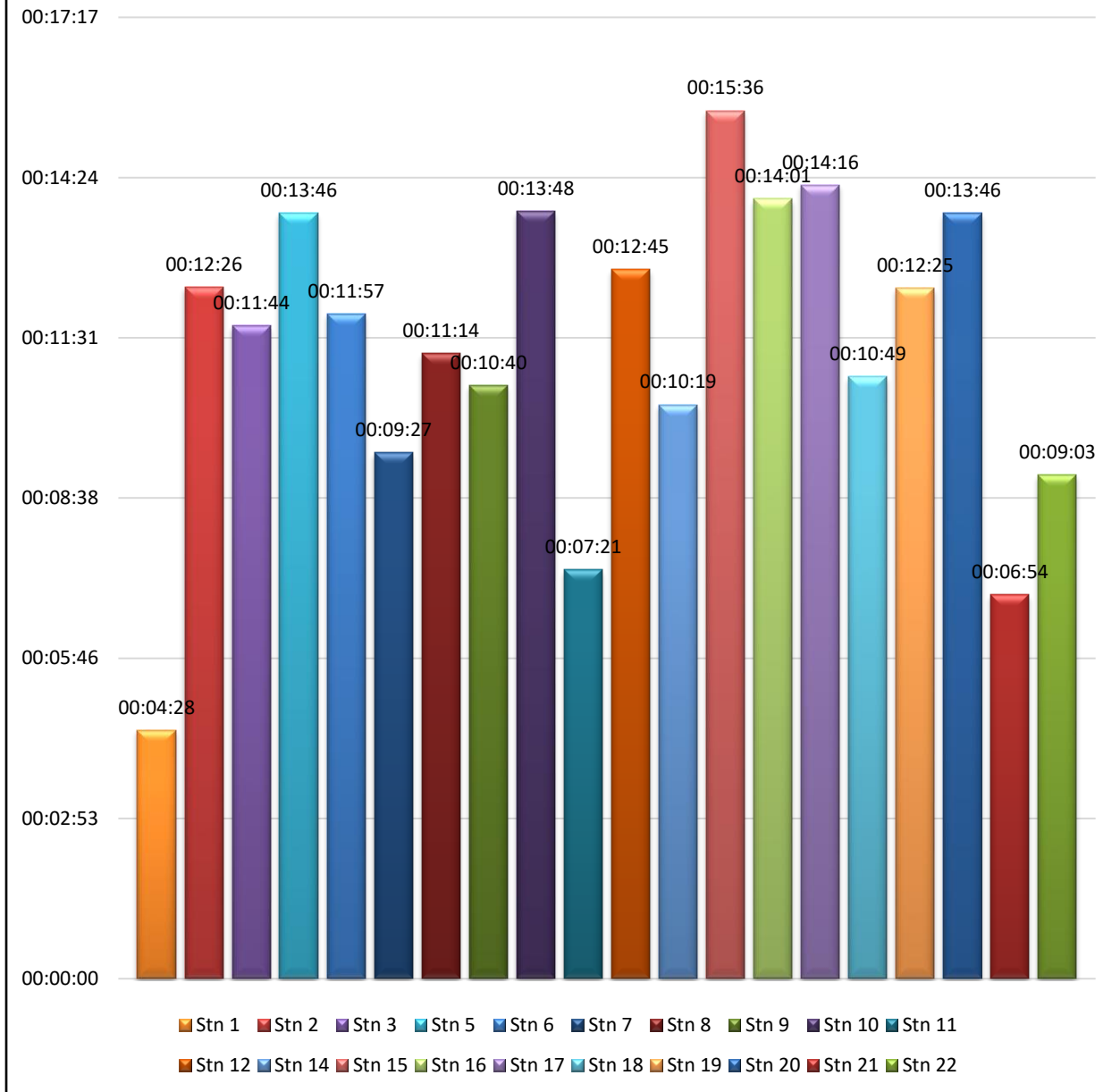
Appendix F – Call and Response Data for 2017 and 2016 Based on Average Response Times

2017 Calls and Response Data

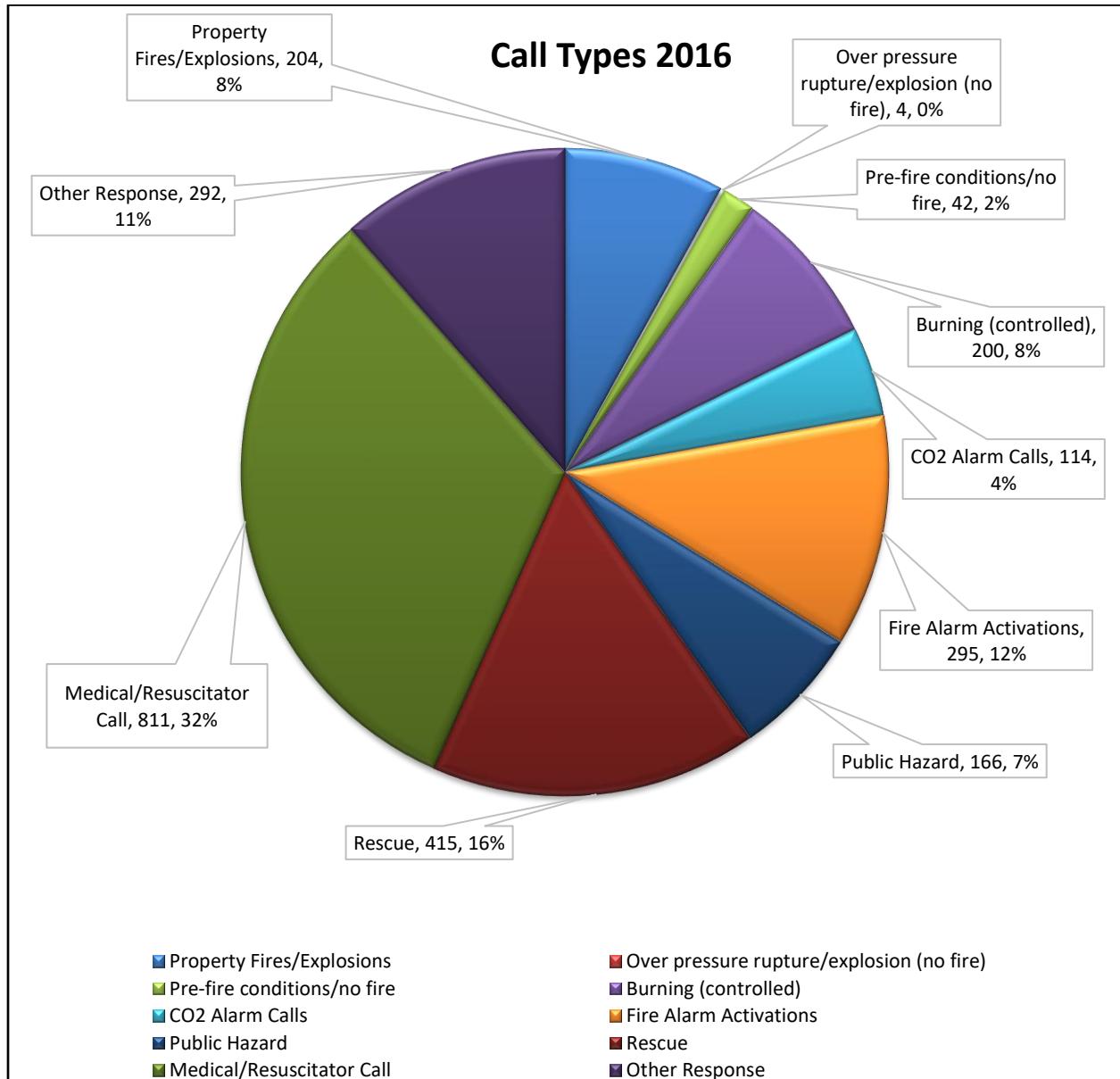


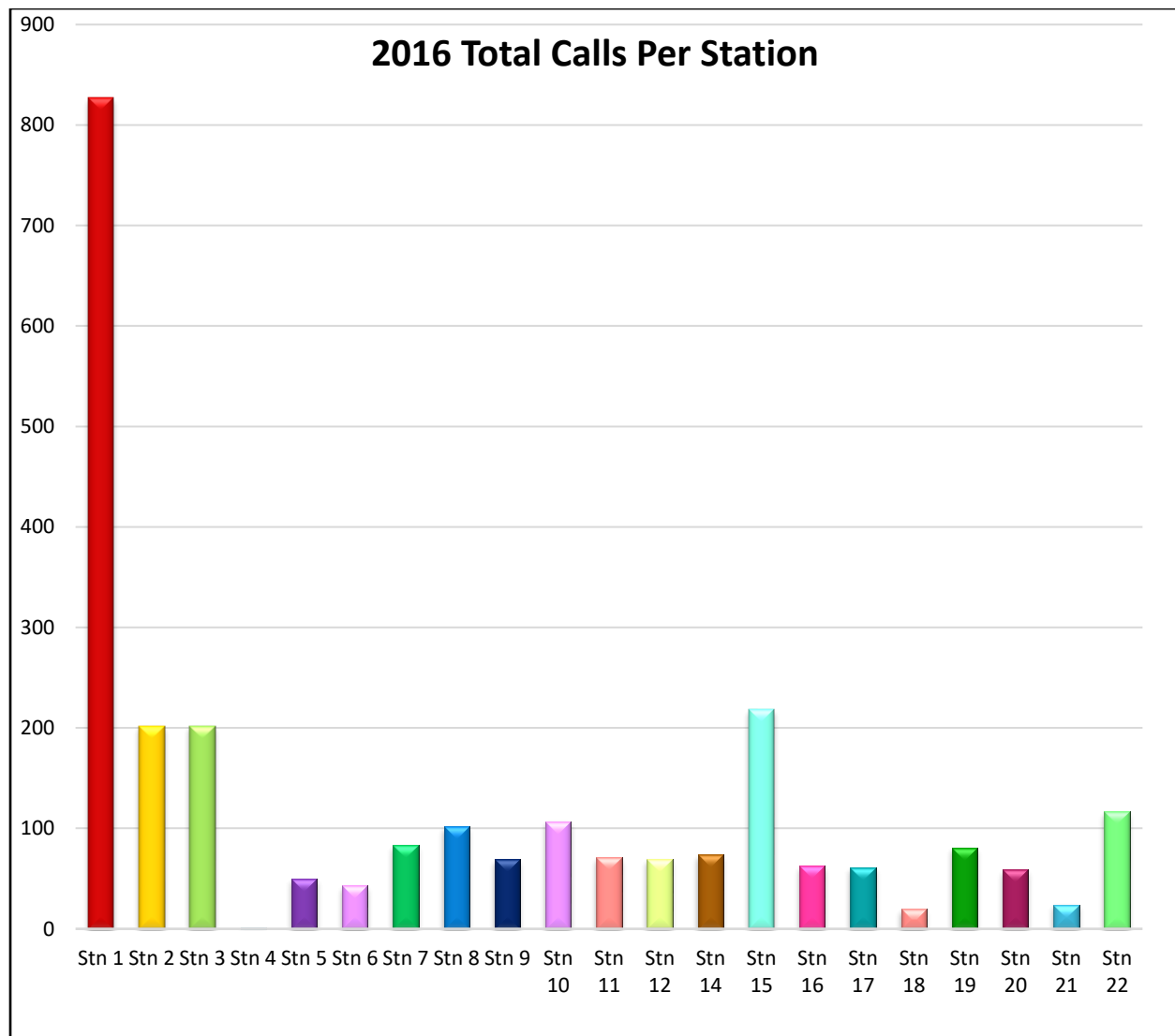


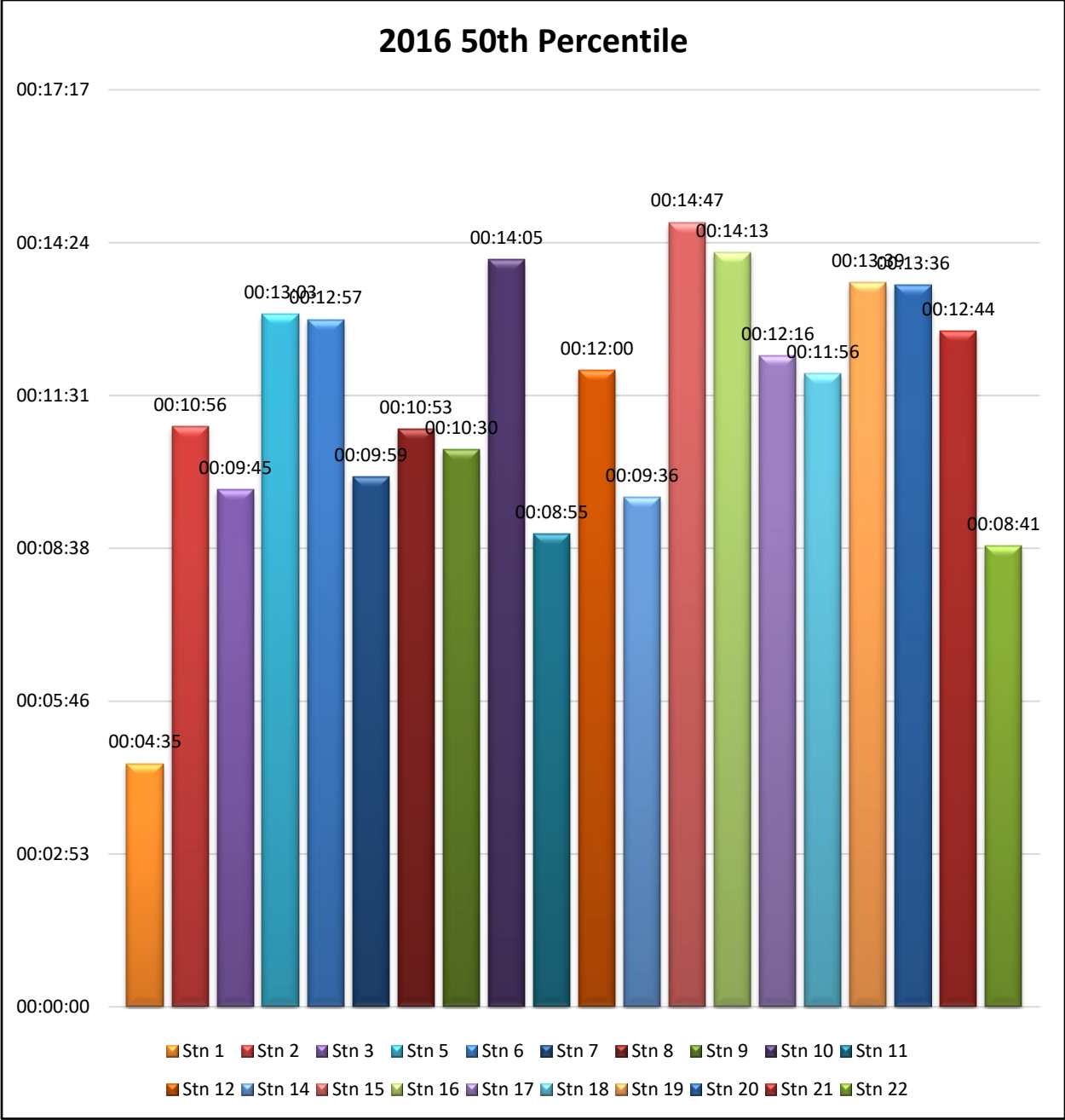
2017 - 50th Percentile Response Times



2016 Calls and Response Data







Appendix G – Fire Fleet Long-Term Needs

Property	Identifier	Asset	Level 3 - Group	Model	In-Service Year	Expected Useful Life	Unit Replacement Cost (2020\$)	Replacement Cost (2020\$)	Annual Need (2020\$)
Fire Hall 1	98ZB6	2009 Spartan Aerial	Aerials	Aerial	2009	15	1,500,000	1,500,000	100,000
Fire Hall 1	98PC4	2009 GMC Sierra	Half-Ton Trucks	Sierra	2009	7	50,000	50,000	7,143
Fire Hall 1	98PD7	2010 GMC Sierra	Half-Ton Trucks	Sierra	2010	7	50,000	50,000	7,143
Fire Hall 1	98PD8	2010 GMC Sierra	Half-Ton Trucks	Sierra	2010	7	50,000	50,000	7,143
Fire Hall 1	98PF6	2010 GMC Sierra	Half-Ton Trucks	Sierra LT 1500	2010	7	50,000	50,000	7,143
Fire Hall 1	98PJ7	2015 GMC Sierra	Half-Ton Trucks	Sierra	2015	7	50,000	50,000	7,143
Fire Hall 1	98ZB8	2013 Spartan Pumper	Pumpers	Pumper	2013	20	600,000	600,000	30,000
Fire Hall 1	98V48	2013 Chevrolet Equinox	SUVs	Equinox	2013	7	36,000	36,000	5,143
Fire Hall 1	98V55	2015 Chevrolet Equinox	SUVs	Equinox	2015	7	36,000	36,000	5,143
Fire Hall 1	98V45	2012 Chevrolet Orlando	SUVs	Orlando	2012	7	36,000	36,000	5,143
Fire Hall 1	98V46	2012 Chevrolet Orlando	SUVs	Orlando	2012	7	36,000	36,000	5,143
Fire Hall 1	98ZG4	2003 Spartan Tanker	Tankers	Tanker	2003	20	625,000	625,000	31,250
Fire Hall 1	98F61	2009 Pace Trailer	Trailers		2009	30	10,000	10,000	333
Fire Hall 2	98F34	1993 Shore Boat/Trailer	Boats	Boat/Trail	1993	30	81,500	81,500	2,717
Fire Hall 2	98ZC5	2008 Spartan Pumper	Pumpers	Pumper	2008	20	600,000	600,000	30,000
Fire Hall 2	98ZC6	2014 Spartan Tanker	Tankers	Tanker	2014	20	625,000	625,000	31,250
Fire Hall 3	98ZD5	2008 Spartan Pumper	Pumpers	Pumper	2008	20	600,000	600,000	30,000
Fire Hall 3	98ZD6	2012 Spartan Tanker	Tankers	Tanker	2012	20	625,000	625,000	31,250
Fire Hall 4	98ZB3	2002 IHC Rescue	Rescues	Rescue	2002	15	500,000	500,000	33,333
Fire Hall 4	98ZE4	2012 Spartan Tanker	Tankers	Tanker	2012	20	625,000	625,000	31,250
Fire Hall 5	98ZF5	2008 Spartan Pumper	Pumpers	Pumper	2008	20	600,000	600,000	30,000
Fire Hall 5	98ZF4	2007 Spartan Tanker	Tankers	Tanker	2007	20	625,000	625,000	31,250
Fire Hall 6	98ZB5	2007 Spartan Pumper	Pumpers	Pumper	2007	20	600,000	600,000	30,000
Fire Hall 6	98ZG5	2014 Spartan Tanker	Tankers	Tanker	2014	20	625,000	625,000	31,250
Fire Hall 7	98ZD1	1999 IHC Pumper	Pumpers	Pumper	1999	20	600,000	600,000	30,000
Fire Hall 7	98ZH2	2003 GMC Tanker	Tankers	Tanker	2003	20	625,000	625,000	31,250
Fire Hall 8	98ZJ4	2014 Spartan Pumper	Pumpers	LA4	2014	20	600,000	600,000	30,000
Fire Hall 8	98ZL2	2000 Ford Rescue	Rescues	F450 XL Super Duty	2000	15	500,000	500,000	33,333
Fire Hall 8	98ZJ5	2014 Spartan Tanker	Tankers	Tanker	2014	20	625,000	625,000	31,250
Fire Hall 9	98PR3	2004 Yamaha ATV	ATVs	ATV	2004	15	12,900	12,900	860
Fire Hall 9	98F26	1998 Home Boat/Trailer	Boats	Boat	1998	30	81,500	81,500	2,717
Fire Hall 9	98ZK5	2009 Spartan Pumper	Pumpers	Pumper	2009	20	600,000	600,000	30,000
Fire Hall 9	98ZK4	2007 Spartan Tanker	Tankers	Tanker	2007	20	625,000	625,000	31,250
Fire Hall 9	98F38	2000 North Trailer	Trailers	Trailer	2000	30	10,000	10,000	333
Fire Hall 10	98F27	1998 North Boat/Trailer	Boats	Boat	1998	30	81,500	81,500	2,717

Fire Hall 10	98ZL5	2011 Spartan Pumper	Pumpers	Pumper	2011	20	600,000	600,000	30,000
Fire Hall 10	98ZL4	2009 Spartan Tanker	Tankers	Tanker	2009	20	625,000	625,000	31,250
Fire Hall 11	98ZM5	2011 Spartan Pumper	Pumpers	Pumper	2011	20	600,000	600,000	30,000
Fire Hall 11	98ZM4	2009 Spartan Tanker	Tankers	Tanker	2009	20	625,000	625,000	31,250
Fire Hall 12	98ZN6	2008 Spartan Pumper	Pumpers	Pumper	2008	20	600,000	600,000	30,000
Fire Hall 12	98ZN5	2007 Spartan Tanker	Tankers	Tanker	2007	20	625,000	625,000	31,250
Fire Hall 14	98ZQ2	2000 GMC Tanker	Tankers	Tanker	2000	20	625,000	625,000	31,250
Fire Hall 14	98ZQ4	2015 Spartan Pumper	Pumpers	Pumper	2016	20	600,000	600,000	30,000
Fire Hall 15	98ZB7	2009 Spartan Pumper	Pumpers	Pumper	2009	20	600,000	600,000	30,000
Fire Hall 15	98ZR4	2011 Spartan Tanker 2013 Bravo SC612	Tankers	Tanker	2011	20	625,000	625,000	31,250
Fire Hall 15	98F67	Trailer	Trailers	SC612SA	2013	30	10,000	10,000	333
Fire Hall 16	98ZV1	2003 Freightliner Pumper	Pumpers	Pumper	2003	20	600,000	600,000	30,000
Fire Hall 16	98ZD4	2003 Ford Rescue	Rescues	F550	2003	15	500,000	500,000	33,333
Fire Hall 16	98ZZ7	2003 Spartan Tanker	Tankers	Tanker	2003	20	625,000	625,000	31,250
Fire Hall 17	98ZT1	2000 Freightliner Pumper	Pumpers	Pumper	2000	20	600,000	600,000	30,000
Fire Hall 17	98ZT4	2012 Spartan Tanker 2006 International	Tankers	Tanker	2012	20	625,000	625,000	31,250
Fire Hall 18	98ZE3	Pumper	Pumpers	Pumper	2006	20	600,000	600,000	30,000
Fire Hall 18	98ZD2	2003 GMC Tanker	Tankers	Tanker	2003	20	625,000	625,000	31,250
Fire Hall 19	98PR2	2001 Honda ATV	ATVs	ATV	2001	15	12,900	12,900	860
Fire Hall 19	98ZV4	2014 Spartan Pumper	Pumpers	F350 XL Super Duty	2014	20	600,000	600,000	30,000
Fire Hall 19	98ZV3	2000 Ford Rescue	Rescues		2000	15	500,000	500,000	33,333
Fire Hall 19	98ZV2	2000 GMC Tanker	Tankers	Tanker	2000	20	625,000	625,000	31,250
Fire Hall 19	98F29	2001 Nort Trailer	Trailers	Trailer	2001	30	10,000	10,000	333
Fire Hall 19	98F37	2001 Nort Trailer	Trailers	Trailer	2001	30	10,000	10,000	333
Fire Hall 20	98PR4	2002 Bombardier ATV 2006 International	ATVs	ATV	2002	15	12,900	12,900	860
Fire Hall 20	98ZX7	Pumper	Pumpers	Pumper	2006	20	600,000	600,000	30,000
Fire Hall 20	98ZG3	1990 Ford Rescue	Rescues	Rescue	1990	15	500,000	500,000	33,333
Fire Hall 20	98ZJ2	2000 GMC Tanker	Tankers	Tanker	2000	20	625,000	625,000	31,250
Fire Hall 20	98F71	2013 UPUL Trailer	Trailers		2013	30	10,000	10,000	333
Fire Hall 21	98F24	1993 North Boat/Trailer	Boats	Boat	1993	30	81,500	81,500	2,717
Fire Hall 21	98ZJ1	2001 HME Pumper	Pumpers	Pumper	2001	20	600,000	600,000	30,000
Fire Hall 21	98ZY4	2012 Spartan Tanker 2008 International	Tankers	Tanker	2012	20	625,000	625,000	31,250
Fire Hall 22	98ZZ9	Air/Light	Air/Light/Hazmat	4400 SBA 4x2	2008	20	465,000	465,000	23,250
Fire Hall 22	98ZZ8	2008 Spartan Pumper	Pumpers	Pumper	2008	20	600,000	600,000	30,000
Fire Hall 22	98ZZ10	2015 Spartan Pumper	Pumpers	Pumper	2016	20	600,000	600,000	30,000
Fire EVT Division	98ZF3	1999 Ford Rescue	Rescues	Rescue	1999	15	500,000	500,000	33,333
Fire EVT Division	98F59	2010 ATV Trailer	Trailers		2010	30	10,000	10,000	333

Fire Hall 7	98ZH4	2017 Spartan Tanker	Tankers	Tanker	2017	20	625,000	625,000	31,250
Total								31,518,700	1,681,566

Appendix H – 10-Year Capital Forecast

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
FIRE SERVICE FLEET										
PUMPER TRUCK						600000	600000	600000	600000	600000
TANKER TRUCK	625000				625000	625000	625000	625000	625000	625000
RESCUE TRUCK										
PICK UP TRUCK instead of rescue	200000									
PICK UP TRUCK training	46000									
PICK UP TRUCKS		64000	32000		78000		92000		46000	
RESCUE TRUCK					452100					
BOATS (BOBCAYGEON REPL)	25000	25000	25000							
UTV AND TRAILER	25000		25000							
FIRE SERVICE EQUIPMENT										
EQUIPMENT REPLACEMENT	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000
EXTRICATION EQUIPMENT EDRAULICS	80000	80000	80000	80000	80000	80000	80000	80000	80000	80000
BUNKER GEAR	150000	150000	150000	150000	150000	150000	150000	150000	150000	150000
TELECOMMUNICATIONS	40000	40000	40000	40000	40000	40000	40000	40000	40000	40000
DIGITAL COMMUNICATIONS PAGING SYSTEM	225000	225000								
SCBA BOTTLES 80 per year	112000	112000								
DEFIBRILLATORS 5 PER YEAR	10000	10000	10000	10000						
HELMETS	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
ICE WATER EQUIPMENT MUSTANG SUITS, PFDS	5000	5000	5000	5000						
POLAR 75 ICE WATER EQUIPMENT	10000		10000		10000		10000		10000	
DECONTAMINATION/HYGIENE cancer prevention	30000	30000	30000							
AIRMATION FOR MARIPOSA (particulate cleaner)	35000									
FIRE SERVICE FACILITIES										
STATION CAPITAL REPAIRS	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000

TRAINING CENTRE BURN TOWER	225000	150000	150000	150000	150000						
EMERGENCY SERVICE HEADQUARTERS		4000000	4000000								
	\$2,013,000	\$5,061,000	\$4,727,000	\$ 605,000	\$1,755,100	\$1,665,000	\$1,767,000	\$1,665,000	\$1,721,000	\$1,665,000	