OCEAN WAVE
FIRE COMPANY

MASTER FIRE PLAN

2020-2024

TABLE OF CONTENTS

1.0 Foreword

The Ocean Wave Fire Company has been proudly serving the community of Carleton Place for over 140 years. Today, the Company consists of volunteers and full-time firefighters and officers who remain dedicated to provide assistance to those who require help in time of their greatest need. Whether it is a medical emergency, a fire or providing public fire prevention education, all members of the Department strive to perform professionally and competently to exceed public expectations.

To continue to advance and ensure that the services provided are appropriate, efficient and effective, the Company has reviewed and updated its 2014 Fire Master Plan. This revised Plan is the result of both an external review and internal analysis of the Department. The Plan benchmarks the performance of the Department against both Ontario Fire Marshal (OFMEM) and National Fire Protection Association (NFPA) standards. It also reflects a comprehensive internal analysis realized through a comprehensive engagement process to determine cultural, organizational or other issues that may adversely impact efficiency and effectiveness.

The Plan describes the current state of the Department and provides recommendations to improve service delivery. It has been developed for a five year time frame from 2019 to 2024. The Plan proposes strategic improvements that will enable the Company to continue its tradition of continuous improvement in efficiency and effectiveness of service delivery. It addresses the challenges of recruiting and retaining volunteer firefighters.

Fire departments in Ontario are evolving with a growing focus on prevention and broad response to emergencies in addition to fighting fires. Further, the legislative, regulatory and liability environment has changed markedly over the years with far greater emphasis on safety, accountability and risk management. As a result, performance expectations have increased dramatically and roles and responsibilities continue to change.

To facilitate successful sustained continuous improvement, this Plan has been prepared with the active participation of the Company's firefighters and officers. We are confident that the recommendations are supported, can be implemented and will result in continuation of our tradition of service excellence.

Pascal Munier, Chief,
Ocean Wave Fire Company
November 25, 2019

2.0 Introduction

This Master Fire Plan will provide a framework to guide future policy, organizational, capital and operational planning decisions for the Ocean Wave Fire Company (OWFC).

The Ontario Fire Marshal (OFMEM) has provided a concise summary of the objectives of a Master Plan as follows:

> "*Every fire department should be guided by a master or strategic plan. This Community Master Fire Protection Plan traditionally focused on the identification of fire hazards and planning an appropriate suppression force response. Today, hazard or risk assessment has expanded well beyond the fire problem in the community to include emergency medical incidents, hazardous materials incidents and many other emergency situations. Paradigms are being shifted to emphasize the concept of fire prevention and control systems as communities attempt to effectively reduce losses experienced. This document should include plans for human resources and program financial support as well as the many external influences that impact on the fire service. The information contained within the Community Master Fire Protection Plan should provide a clear and concise overview of the most recently adopted organizational goals and objectives, budgetary commitments, mission statements and assessments of organizational activity. The document should cover a long range planning period of five to ten years."*[1]

The *Fire Protection and Prevention Act* ("FPPA") makes municipalities responsible for the provision of fire protection services. Section 2(1) of the FPPA requires municipalities to provide: 1) public education with respect to fire safety and fire prevention; and 2) such other fire protection services as it determines may be necessary in accordance with its needs and circumstances.

Traditionally, many have assumed that the requirements under the FPPA can be met by simply creating a fire department. In the absence of a comprehensive hazard and risk assessment and a considered matching of service provision to needs and circumstances, this view may not address the requirement to provide fire protection services that *may be necessary in accordance with its needs and circumstances*.

Further, what may have been an appropriate response in the past may be out of date as a result of new developments, new standards, or changing legislative requirements. Thus, the determination of what "may be necessary in accordance with its needs and circumstances" is one of the key objectives of a Fire Master Plan.

[1] Personal Communication, Dan Koroscil, Advisor (ret.), Ontario Office of the Fire Marshal

Current challenges faced by OWFC are similar to those faced by many rural/urban interface fire departments in Ontario. Increased rigour from statutory requirements related to firefighter health and safety, improved and more advanced suppression technology, increased skills and competencies required, fewer firefighters being available for workday response, and increased emphasis on prevention and public education are examples. In addition, the presence of high risk institutional and commercial occupancies, high value residential occupancies, and mutual aid requirements present unique challenges.

3.0 Methodology

A great plan is more than the production of a report. For the document to truly 'live and breathe', be inspiring, and be successfully implemented the project methodology has incorporated the following objectives:

First, the plan needs to reflect the collective energy of the team to build enthusiasm for a positive future and reflect both a shared sense of purpose (mission) and desired future (vision). As well, the plan needs to reflect and articulate shared values. Development of values is critical to achieving a clear understanding of expected behaviours both in and outside the workplace.

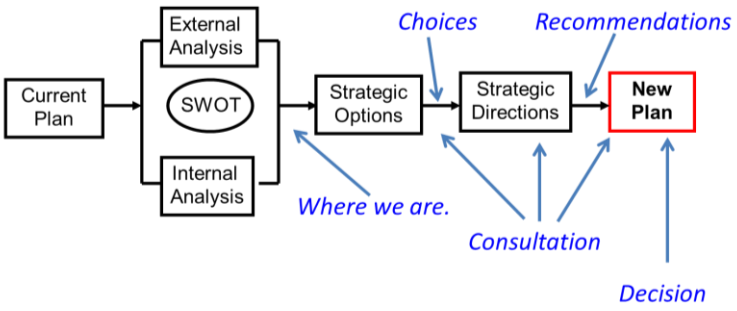
The second key objective in the development of the plan is to create a process that is inclusive, consultative and collaborative. Thus, the process has been designed to involve firefighters, officers and senior municipal leadership.

The third objective of the process is to build consensus and 'buy in' so there is enthusiasm, commitment and energy in the implementation of the plan. The process should not only lead to a robust plan, it should also assist firefighters, Council and the community to better understand and support the Company's role and priorities.

The fourth objective is to base the plan on solid, quantitative information to ensure future direction and recommendations are based on objective evidence and recognized 'best practice'.

This Plan addresses traditional strategic planning components including Mission, Vision and Values as well as multi-year strategic directions as outlined in Figure 1.

Figure 1: Fire Master Plan Strategic Planning Framework



The Plan also addresses multi-year capital requirements related to apparatus, station assessment and location as well as tactical objectives for training, suppression, public education, fire prevention, department organization and human resource planning.

The Plan development provides extensive documentation and analysis of data to fully understand the role, challenges and performance of the Company.

Hazard identification and risk analysis is a critical component of the study and provides the foundation for the multi-year plan. The risk assessment allows the determination of what is necessary with respect to response capability in accordance with needs and circumstances. The risk analysis includes analysis of specific risks, population demographics and call volume. The analysis documents and evaluates emergency response times and deployment.

The existing apparatus replacement plan was reviewed and updated.

A review of the existing fire station has been conducted including consideration of location options. The review referenced National Fire Protection Association 1720 standards, Underwriters Insurance Dwelling Protection Grade standards, and Ontario Fire Marshal guidelines. .

Recommendations are presented as a summary in Appendix I. As a future step, this Appendix can be utilized to develop an "Action Plan" with timelines to facilitate multi-year planning, implementation and budgeting.

A SWOT analysis was performed to identify the current and likely future issues relevant to OWFC. This analysis utilized information from the interviews that occurred with firefighters and officers, CAO, and department heads.

Five key questions were used to guide the interviews: *What is working well today? What do you see as the key issues facing the Department? What would you like to see changed? What would you like to stay the same? Any other advice or comments?*

Recommendations and a draft report was then developed in consultation with a Steering Committee. Following further consultation with the firefighters and officers, a final was then prepared.

4.0 Statutory, Regulatory and Policy Requirements

Fire departments in Ontario operate within a statutory and regulatory environment. A key purpose of the Master Fire Plan is to ensure compliance with legal requirements. Further, there are a number of policy statements provided by the Ontario Fire Marshal which, although not legally mandated, are important to acknowledge and implement as part of risk management, due diligence and compliance with 'best practice'. This section will review key requirements in this regard.

4.1 *Fire Protection and Prevention Act*, 1997

The relevant legislation for the operation of a fire department in Ontario is contained within the *Fire Protection and Prevention Act*, 1997 (FPPA).

The FPPA recognizes the importance of implementing the *three lines of defence* to achieve an acceptable level of fire safety within communities.

The three lines of defence are:

I. ***Public Education and Prevention****: Educating residents of the community on means for them to fulfill their responsibilities for their own fire safety is a proven method of reducing the incidence of fire. Only by educating residents can fires be prevented and can those affected by fires respond properly to save lives, reduce injury and reduce the impact of fires;*

II. ***Fire Safety Standards and Enforcement:*** *Ensuring that buildings have the required fire protection systems, safety features, including fire safety plans, and that these systems are maintained, so that the severity of fires may be minimized;*

III. ***Emergency Response:*** *Providing well trained and equipped firefighters directed by capable officers to stop the spread of fires once they occur and to assist in protecting the lives and safety of residents. This is the failsafe for those times when fires occur despite prevention efforts.*

The FPPA requires each municipality in Ontario to establish fire prevention and protection services as follows:

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, Section 8 (1) of the FPPA provides that *"There shall be a Fire Marshal who shall be appointed by the Lieutenant Governor in Council".* FPPA specifies the duties of the Fire Marshal which include responsibilities to assist in the interpretation of the Act, to develop training and evaluation systems and enforcement of the Act and its regulations.

4.2 *Fire Code*

The Fire Code is a regulation made under the *Fire Protection and Prevention Act* (FPPA). It provides the minimum legal requirements and measures for the fire safety of persons and buildings, including the elimination or control of fire hazards in and around buildings, the maintenance of life safety systems in buildings, the establishment of a fire safety plan in certain buildings and the installation of smoke alarms and carbon monoxide alarms.

The owner is responsible for complying with the Fire Code. The municipal fire department enforces the Fire Code. The FPPA Part IV Section 19(1) specifies that the Fire Marshal, an assistant to the Fire Marshal or a fire chief is an inspector. Part III Section 11 (1) specifies that the fire chief of every fire department and any member of a fire prevention bureau as part of a fire department is an assistant to the Fire Marshall. Part IV, Section 21 provides the authority and criteria whereby an inspector may order the owner or occupant of the land or premises to take any measure necessary to ensure fire safety on the land and premises.

Fines for violation of the Fire Code can be quite significant. Examples under the *Provincial Offenses Act* Part I Fines:

- Failure to install smoke alarms - $295.00
- Failure to install carbon monoxide alarms -$295.00
- Failure to make records available to Fire Inspectors - $195.00
- Individual - Fire Code Violation – Maximum $50,000 fine + 1 year in prison
- Corporation - Fire Code Violation – Maximum $100,000 fine + 1 year in prison

4.3 *Public Fire Safety Guidelines*

The Ontario Fire Marshal (OFMEM) has developed Public Fire Safety Guidelines (PFSG) to assist municipalities in making informed decisions with regard to determining local "*needs and circumstances*" and achieving compliance with the FPPA. The guidelines are intended to be used to assist in the development of a municipal fire risk management program.

Relevant PFSG's to the Strategic Master Fire Plan include:

PFSG 00-00-01 "Framework for Setting Guidelines within a Provincial-Municipal Relationship"

PFSG 00-00-01 provides interpretation and advice regarding the delegation of responsibilities and relationship between the Province and municipalities regarding fire protection, suppression and public safety. The PFSG notes:

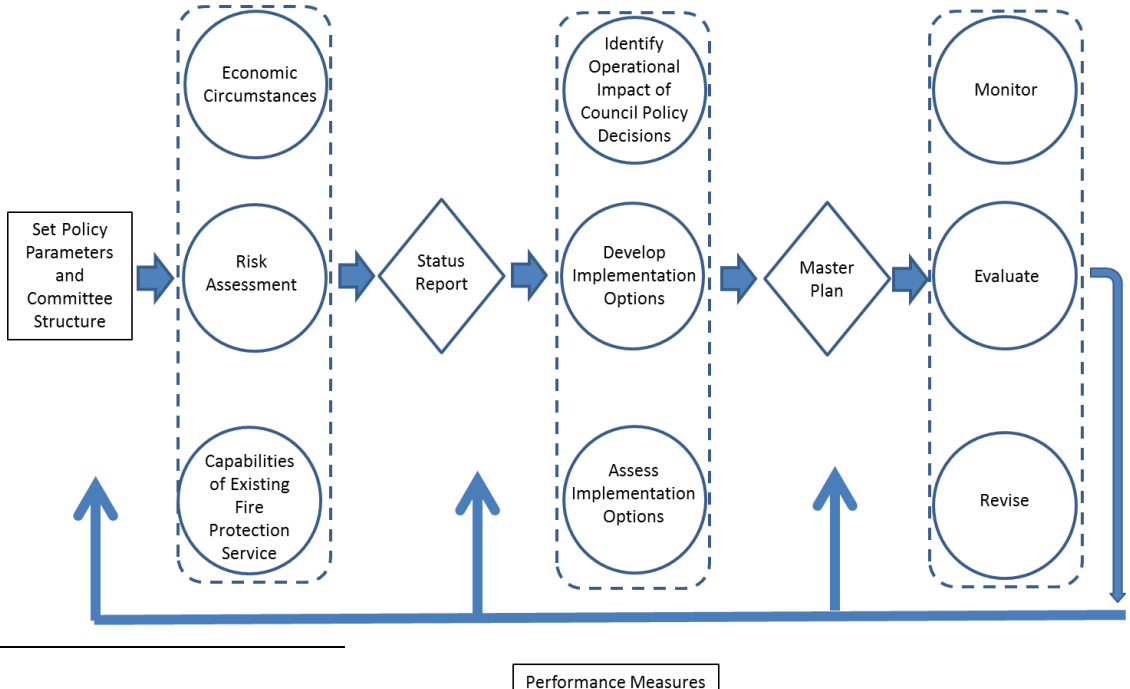
"*Municipalities are compelled to establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention. The Act also states that municipalities are responsible for arranging such other fire protection services as they determine may be necessary according to their own needs and circumstances. The relationship between the province and municipalities is based on the principle that municipalities are responsible for arranging fire protection services according to their own needs and circumstances".* [2]

The PFSG has the following objectives:

- Clarifying municipal responsibility for local fire protection, while protecting the provincial interest in public safety.
- Removing remaining legislative barriers which forestall the restructuring and reorganization of municipal fire services.
- Facilitating a shift in focus which places priority on fire prevention and public education as opposed to fire suppression.
- Providing municipalities with decision-making tools to help them provide services according to their own needs and circumstances.
- Facilitating more active involvement of the private sector and other community groups in fire prevention and public education through the Fire Marshals Public Fire Safety Council.

Figure 2 illustrates the "Optimizing Public Fire Safety" model application of the guidelines.

Figure 2: Optimizing Public Fire Safety



[2] http://www.mcscs.jus.gov.on.ca/english/firemarshal/fireserviceresources/publicfiresafetyguidelines/00-00-01.html

PFSG 04-40-03 "Selection of Appropriate Fire Prevention Programs"

PFSG 04-40-03 and 04-40-12 identify the four minimum requirements to comply with FPPA Section 2. (1) (a) *"establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention*".

The requirements include: 1) Simplified risk assessment, 2) A smoke alarm program, 3) Fire safety education material distributed to residents/occupants; and 4) Inspections upon complaint or when requested to assist with code compliance.

PFSG 04-08-10 "Operational Planning: An Official Guide to Matching Resource Deployment and Risk"

PFSG 04-08-10 provides interpretation as to the requirements under the FPPA Section 2. (1) (b) "*provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances"*.

The key concept in this PFSG is that "*Fire suppression is one aspect of the three lines of defence; the other two lines are Public Education and Prevention and Fire Safety Standards and Enforcement. A municipality needs to evaluate its existing fire suppression capabilities to ensure that it is managing all fire risk levels within the community, responding to and addressing fires that occur, and meeting public and council expectations".* [3]

PFSG 01-02-01 "Comprehensive Fire Safety Effectiveness Model"

PFSG 01-02-01 was developed to assist municipalities in evaluating their level of fire safety. It identifies eight key components, all of which impact on the fire safety of the community. The components include:

1. **Assessing Risk -** identify potential fire risk scenarios such as older buildings, high rise, commercial and industrial occupancies, vulnerable occupancies, water supply, exposure risks, and the risk which the combination of these factors pose to the occupants.
2. **Fire Prevention Program Effectiveness -** Enforcement of regulations (codes) and standards.
3. **Public Attitude -** Improve public attitudes toward the prevention of fire.
4. **Detection Capabilities -** Notify occupants to escape.
5. **Built-in Suppression Capabilities -** Automatic sprinkler protection.

[3] http://www.mcscs.jus.gov.on.ca/english/firemarshal/fireserviceresources/publicfiresafetyguidelines/04-08-10.html

6. **Intervention Time -** Fire Department intervention time is crucial in determining the consequences of a fire.
7. **Fire Ground Effectiveness -** affects the degree of damage to the environment, property loss, personal injury and death from fire.
8. **Impact of Fire - P**roperties whose loss would result in a significant financial burden to the community, significant impact of local employment, significant environment risk, impact of a major fire?

The components are seen as interdependent. Deficiencies in one of the components can be offset by enhancements in another component or components. For example, by developing programs and providing resources to effectively implement the first line of defence, a proactive public education and prevention program, the need for the other lines of defence can be reduced.

The Model acknowledges that municipalities must manage increasing public expectations as well as budget pressures. It requires that fire departments in Ontario must critically assess their fire protection needs and identify new, innovative ways to provide the most cost effective service. There is more to providing fire protection services than fighting fires!

The model requires that every municipality should be guided by a master or strategic plan covering a planning horizon of five to ten years. It promotes shifting from the traditional focus of fire suppression to a more comprehensive risk assessment and use of fire prevention and control systems.

PFSG 01-01-01 "Fire Protection Review Process"

Analysing local circumstances is a core component of the fire master planning process. PFSG 01-01-01 identifies the three main issues that define local circumstances including the guidelines to be utilized including:

- *PFSG 02-03-01 "Economic Circumstances*,
- *PFSG 02-02-03 "Comprehensive Community Fire Risk Assessment*" and
- *PFSG 02-04-01 "Capabilities of Existing Fire Protection Services*.

Detailed analysis of these components are included within this report to provide the background and rational to support the recommendations of this the Plan.

PFSG 04-40D-03 Inspections upon Request or Complaint

This PFSG[4] is designed to assist fire departments in developing procedures to ensure that fire safety inspections are conducted, pursuant to the Fire Code, upon request or complaint. Although building owners are responsible for carrying out

[4] http://www.mcscs.jus.gov.on.ca/english/firemarshal/fireserviceresources/publicfiresafetyguidelines/04-40d-12.html

the provisions of the Fire Code, Fire Services have a public safety interest in ensuring that buildings are maintained in accordance with the provisions of the Fire Code to prevent fires, protect occupants as well as firefighters should a fire occur.

Inspections of properties must be conducted, or arranged for, by the municipality when:

- A complaint is received regarding the fire safety of a property;
- A request is made by a property owner or occupant for assistance to comply with the Fire Code where the involvement of the Chief Fire Official is required; and
- The fire department becomes aware of Fire Code violations and/or other fire hazards at a particular property. ***This clause is particularly important as it is increasingly being interpreted as rational for pro-active fire inspections of occupancies where there are known fire hazards.***

The PFSG provides interpretation regarding the following key Regulations that must be enforced by fire services in Ontario

Ontario Regulation 365/13 – Mandatory Assessment of Complaints and Requests for Approval – requires that fire safety assessments and inspections, if necessary, be undertaken as directed by the Fire Marshal for:

(1) every building or property for which a fire safety complaint is received; and

(2) every building or property for which a request for assistance to comply with the Fire Code is received and the involvement of the Chief Fire Official is required.

Ontario Regulation 364/13 – Mandatory Inspection – Fire Drill in Vulnerable Occupancy – Requires that fire safety inspections be undertaken, as directed by the Fire Marshal, for every care occupancy, care and treatment occupancy and retirement home for which an annual fire drill is required by Sentence 2.8.3.2.(2.1) of Division B of the Fire Code.

Further, the following directives have been created as part of this Guideline to assist municipalities in understanding and complying with their responsibilities regarding:

- Fire Marshal Directive 2014-001, Registry of Vulnerable Occupancies
- Fire Marshal Directive 2014-002, Vulnerable Occupancies – Fire Drill Scenarios, Fire Drill Observations, Fire Safety Inspections
- Fire Marshal Directive 2014-003, Inspections of All Buildings

The guideline states that the fire department's fire prevention policy and operational guidelines should contain criteria to determine how quickly and in what manner a complaint/request is addressed as well as appropriate follow-up with enforcement may be required to ensure corrective action has been taken.

The following factors should be considered when developing Fire Department Prevention Guidelines and Policies:

- The type of inspections to be conducted and the buildings to be inspected.
- The methods of inspection appropriate for the circumstance. This will have implications for the amount of time required to inspect, as more comprehensive inspections require more time.
- The classification of buildings being inspected and the skills and knowledge required to inspect them. The more complicated the building, the more skill and knowledge required.
- Technical assistance required to assist with conducting the inspection, e.g. Electrical Safety Authority, Professional Engineer.
- The seriousness of the complaint received.
- Records management policies (Inspection history of the building including non-compliance or Inspection Orders issued).

Fire departments are expected to respond to requests to assist owners to comply with fire safety legislation in accordance with Directive 2014-003. Conducting complaint inspections will assist communities and their fire departments to mitigate liability concerns. A complaint may be received from a number of sources including: the public, fire suppression crews, outside agencies or government ministries. Complaints are often initiated as a result of a dispute.

Therefore it is important that the inspector must demonstrate impartiality and remain focused on the fire safety concern that has been raised. Any fire code violations or other fire and/or life safety hazards identified during the inspection must be reported to the property owner or other person having responsibility for the property.

When a fire department becomes aware of a Fire Code violation or other fire and/or life safety hazard at a property, it is necessary to conduct an inspection to confirm the violation or hazard, and take the required steps are taken to ensure the owner corrects the violation or eliminates the hazard.

When an owner is unwilling to comply with the Fire Code or correct a fire and/or life safety hazard voluntarily, the fire official should exercise their enforcement authority provided by the FPPA. ***Failure to do so could expose the municipality to potential liability for failing to exercise due diligence.***

The PFSG strongly encourages Code enforcement inspections of high risk properties. High risk properties identified include:

- Properties where a fire would have a significant impact on the community, (employment, social, environmental impact);
- Assembly occupancies;
- Multi-unit residential occupancies;
- Industrial occupancies;

- Older buildings in downtown core;
- Care and treatment occupancies;
- Care occupancies; and
- Retirement homes.

Once a community's fire risks have been identified, inspection programs which are most likely to address these risks should be implemented. Inspection priority should be based on the degree of risk. The frequency of the inspections will depend on the resources provided by the municipality or as regulated.

The following are other relevant PFSG's whichl are available at the OFMEM web site - http://www.mcscs.jus.gov.on.ca/.

04-38-15	Role of Assistant to the Fire Marshal
04-39-12	Fire Prevention Effectiveness Model
04-40-12 & 03	Selection of Appropriate Fire Prevention Programs
04-40A-12 & 03	Simplified Risk Assessment
04-40B-12 & 03	Smoke Alarm Program
04-40C-12 & 03	Distribution of Public Fire Safety Education Materials
04-40D-12 & 03	Inspections upon Request or Complaint (Fire Code)
04-41A-13	Community Fire Safety Program
04-45-12 & 03	Fire Prevention Policy
04-47-12	Development of Fire Prevention By-laws
04-48-12	Liaison with Building Department
04-49-12	Liaison with Other Government Agencies and Individuals
04-50-12	Fire Safety Inspection Practices
04-52-12 & 03	Fire Investigation Practices
04-60-12	Records Management
04-80-01 & 23	Fees for Services
TG-01-2012	Fire Safety Inspections and Enforcement

5.0 Community Profile, Hazard Identification and Risk Assessment

5.1 Community Profile

Carleton Place is located about 46 kilometres west of downtown Ottawa at the intersection of Highway 15 and Highway 7. It is bordered by the Municipality of Mississippi Mills and Beckwith Township. The Mississippi River flows through the town. Mississippi Lake is upstream to the south. The town is situated on the edge of a large limestone plain, south of the Canadian Shield.

Originally inhabited by the Algonquin, Carleton Place was first settled by Europeans in the early 19th century.

Carleton Place was first known as Morphy's Falls, a hamlet in Beckwith Township. Settlement grew around a grist mill located at the falls on the Mississippi River that began operation in 1820. In 1829, the area was renamed Carleton Place, after a street in Glasgow, Scotland. It was incorporated as a village in 1870 and became a town in 1890.

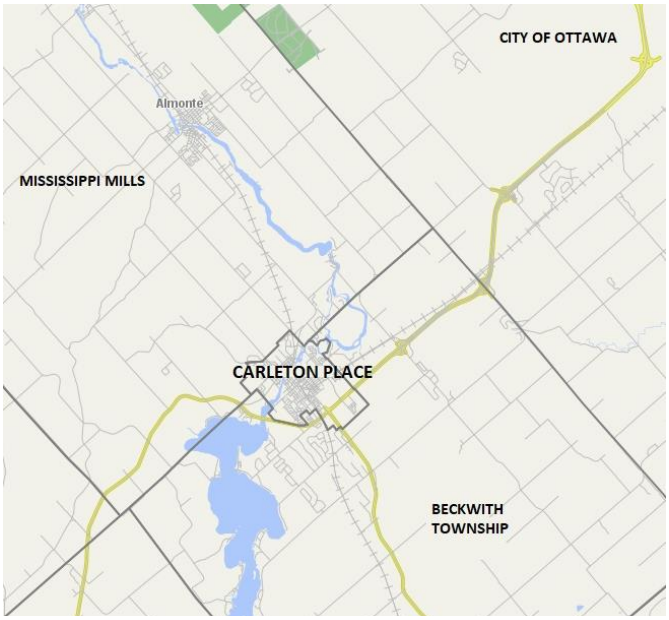


Figure 3: Map of Carleton Place and Surrounding Municipalities

Figure 4: Carleton Place Town Hall

With the abundance of water power available from the river, industry thrived as sawmills, textile mills, machine shops and an iron foundry developed. As a result, the 1880s and 1890s saw a large growth in population, services and building construction. The first Town Hall, now the Carleton Place and Beckwith Heritage Museum, was built in 1872. The current Town Hall was built in 1897.

The town became a railway hub with both Canadian Pacific and Canadian National Railways tracks and location of CP Engine Repair Shops.

Although manufacturing diminished over the years, Carleton Place continued to grow as new residents were attracted to the beautiful natural setting of the town.

5.2 Demographic Profile

Table 1, 2 and 3 presents a demographic summary of the Municipality. In 2016, the population was 10,644. With a land area of 9 sq, km, the population density is 1,176 persons per sq. km. Growth is expected to continue resulting in a population of 20,964 by 2038, a 97% increase from 2016.

Table 1: Carleton Place Historic and Projected Population Growth

	2001*	2011*	2016*	2038**
Population	9,453	9,809	10,644	20,964
% Increase	4.1%	3.8%	8.5%	97%

* Statistics Canada
** Lanark County Official Plan Adjustment # 8 Population Forecast, May 2019

As shown in Table 2, the proportion of elderly in Carleton Place is 18.5% which is higher than the Provincial average of 16.7%.

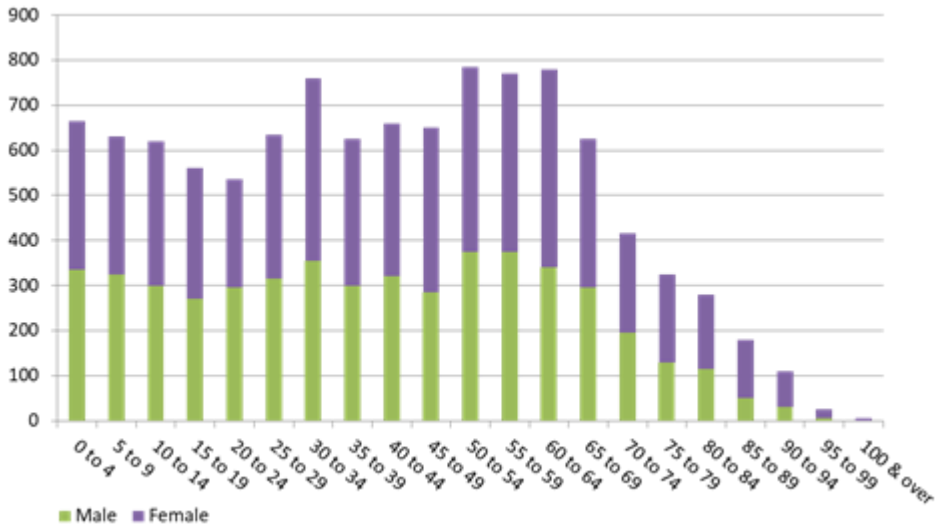
Table 2: Carleton Place Population Age Distribution (2016 Census)

Age Group	Population	Carleton Place Percent	Ontario Percent
0-14	1,920	18.0%	16.4
15-65	6,760	63.5%	66.8
65+	1,970	18.5%	16.7

Source: Statistics Canada

Figure 5 illustrates the population distribution by five-year age groups.

Figure 5: Carleton Place Population by Five-Year Age Age Groups



Source: Statistics Canada (2016 Census)

Table 2 and Figure 5 reveals that Carleton Place is a destination for both young families as well as seniors with higher proportions of 0-14 and 65+ compared to the Provincial average as well as a high proportion of the 30-34 demographic.

One of the challenges volunteer departments face is the increasing number of firefighters who no longer work in the community. The trend in many rural areas and towns is that the employed labour force often commutes considerable distances to their work place. This may result in work day response times with adequate personnel being compromised.

Table 3 presents a summary of commuting times for the employed labour force of Carleton Place. Although the majority of employed residents have a commute of greater than 15 minutes, there is still a substantial number (1,445) who have a commute of 15 minutes or less.

Table 3: Commuting Duration for the Carleton Place Employed Labour Force (2016 Census)

Commuting Duration	Number of Residents
Less than 15 minutes	1,465
15 to 29 minutes	1,045
30 to 44 minutes	1,130
45 minutes and over	1,180
Total	4,820

Source: Statistics Canada

5.3 Occupancy Profile

Table 4 presents the occupancies identified by the Ontario Municipal Property Assessment Corporation (MPAC). The occupancies reflect the predominantly urban nature of the Town with significant assembly, institutional, commercial and industrial occupancies.

There continues to be significant growth in multiple residential occupancies. This growth of low-rise, multi –unit residential occupancies will likely continue as seniors seek affordable, low-maintenance properties with proximity to health care and other amenities for retirement.

Table 4: Carleton Place MPAC Identified Properties

Occupancy	Number
Vacant land & Open Spaces	542
Farms	15
Residential – Single Detached	2,422
Residential – Multiple	1,313
Commercial	191
Industrial	58
Institutional - Hospital	1
Institutional – LTC, Retirement Home	3
Institutional - School	9
Institutional - Other	3
Place Of Worship	7
Special Purpose (sport facilities, community halls, clubs, libraries)	14
Total	4,578

Source: MPAC Property Code Report, 2018. Note: Does not include vacant lands

5.4 Hazard Identification

Carleton Place has experienced rapid growth over the past 20 years with new residential and commercial development. There remains a traditional business area with Type 3, ordinary construction (masonry exterior walls and combustible interior beams). There are also a number of historic buildings which are vacant awaiting potential future development.

There are no high rise buildings in the Municipality. Institutional occupancies include nine schools, a hospital, one nursing home (Long Term Care) and two retirement homes.

As a result of numerous fatalities, there have been changes to the Ontario Fire Code to designate care facilities such as hospitals, nursing homes, and retirement homes as “Vulnerable Occupancies”.

There is a recently developed trail utilizing abandoned railroad tracks which is available for both snowmobile and ATV use. The Mississippi River flows through the Town that presents both an ice and swift water hazard.

In compliance with the Emergency Management Act, Carleton Place has completed an identification of hazards and assessed their associated risks to determine which hazards are most likely to result in an emergency. This has resulted in creation of Hazard Identification and Risk Assessment Sheets (HIRA) which identify the type of hazard, probability of occurrence and relative consequence.

Risks identified by the HIRA are noted in Table 5.

Table 5: Carleton Place Hazard & Risk Assessment Summary

High and Medium Probability/Consequence Rating		
Priority	**Hazard**	**Risk Analysis**
1	Water Emergencies	60
2	Energy Emergencies (Hydro, Natural Gas, Communications)	60
3	Critical Infrastructure	60
4	Human Health	60
5	Extreme Heat/Cold	60
6	Ice/Sleet Storm	48
7	Lightning Storm	30
8	Drought	20
9	Trans Accident Road	20
10	Tornado	18
11	Windstorm	11
12	Hail	15

5.5 Historic Call Volumes

Analysis of emergency response calls over time provides a useful perspective on the type and frequency of hazards. Table 6 illustrates the type and frequency of calls between 2013 and 2018 including the 6 year average.

Table 6: OWFC Annual Call Volume

Response Type	2013	2014	2015	2016	2017	2018	Average
Medical Assist	11	4	0	4	4	4	5
Motor Vehicle Accidents	5	6	2	4	13	12	7
Structure Fires	8	9	13	7	11	4	9
Activated Alarms	72	69	80	54	66	85	71
Brush / Grass Fires	2	3	3	4	6	6	4
Gas Leak or Spill	8	3	3	2	4	7	5
Power Lines Down	3	1	3	2	3	5	3
Carbon Monoxide	16	9	19	9	19	23	16
Vehicle Fires	3	2	1	2	4	1	2
Assistance to Other Fire Department	30	20	18	18	25	22	22
Other	59	44	47	58	41	51	50
Total	**217**	**170**	**189**	**164**	**196**	**220**	**193**

Figures 6 to 10 presents key response volumes with trend lines.

Figure 6: Ocean Wave Fire Company Total Call Volume 2013 – 2018

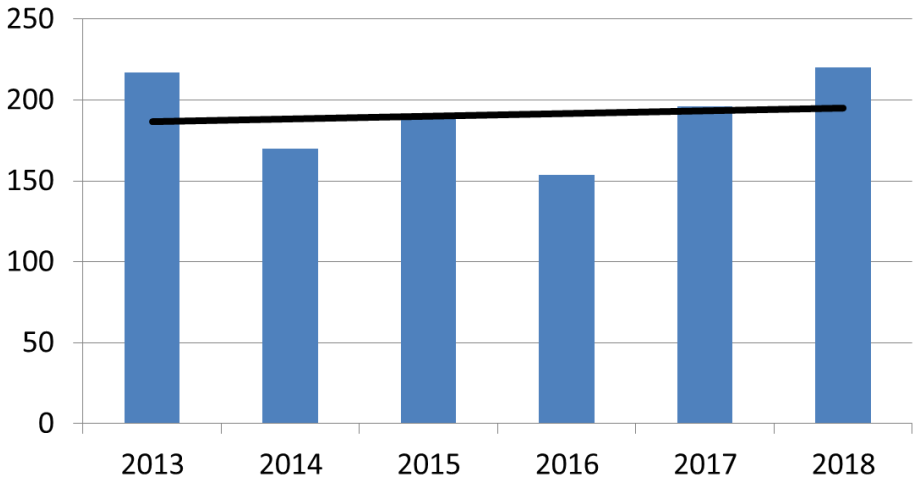


Figure 7: Ocean Wave Fire Company Structure Fires 2013 - 2018

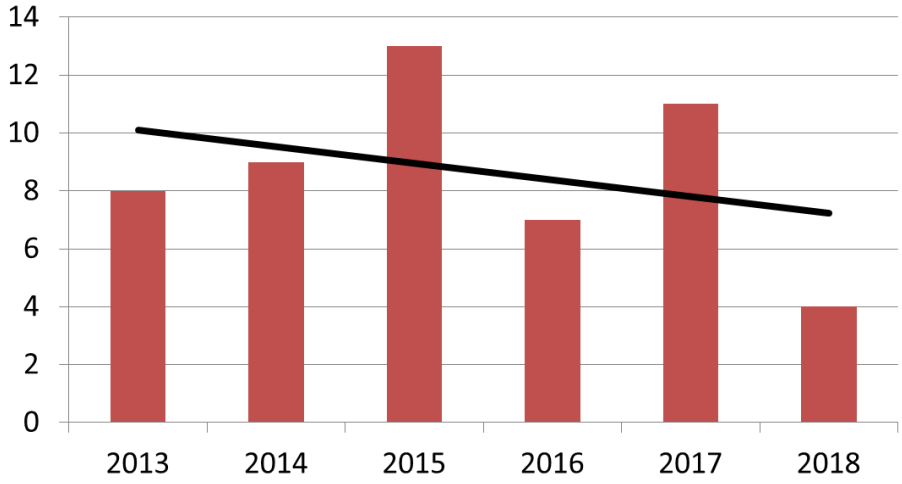


Figure 8: Ocean Wave Fire Company Medical Calls 2013 – 2018

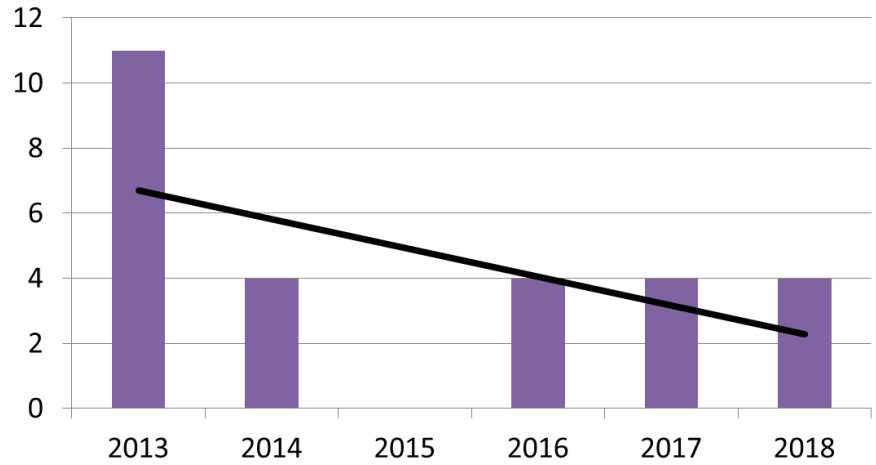


Figure 9: Ocean Wave Fire Company Motor Vehicle Accidents 2013 - 2018

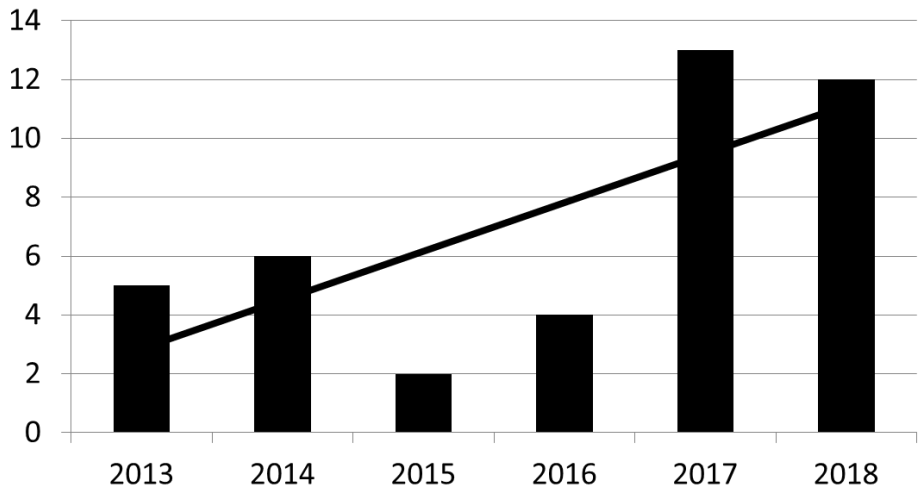
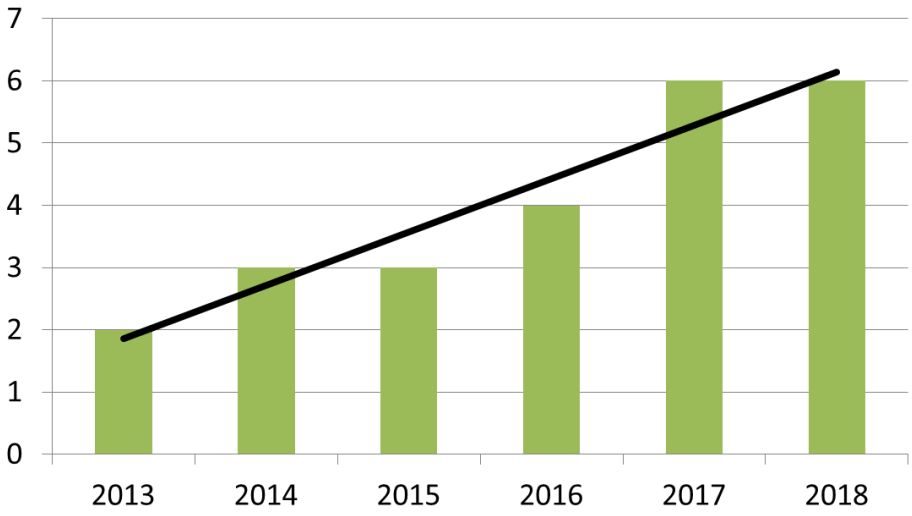


Figure 10: Ocean Wave Fire Company Bush/Grass Fires 2013 - 2018



Over the past six years, OWFC has responded to an average of 193 calls per year, with an average of 9 structure fires, 5 motor vehicle accidents, 5 medical calls, 4 grass/wildland fires, and 22 assists to other Fire Departments.

The majority of calls are activated alarms which average 71 per year. This volume of calls for alarms activated is not unusual for an urban community with a number of commercial and institutional occupancies that are equipped with alarms.

Medical calls are relatively infrequent which is not unexpected as there is an EMS Station located within the Town.

The trend line for the number of calls does not show a rate of growth proportionate to the population growth of the Town and surrounding area. This may be a result of the Department's emphasis on public education and fire

prevention. Ongoing fire prevention efforts should decrease the number of structure fires and ongoing liaison between the Fire Department and commercial and institutional occupancies should facilitate a reduction of activated alarms.

An analysis of the 2016 and 2017 call volume detail revealed that the Town is responding to a number calls requiring specialized training as noted in Table 7.

Although there appears not to have been specific calls to date for confined space rescue, the presence of underground utility infrastructure within the Town creates the potential for this technical rescue requirement.

Table 7: OWFC Specialized /Technical Rescues Calls 2016 & 2017

Incident Type	2016	2017
Natural Gas Leak	2	3
Persons trapped in Elevator	1	1
Power lines down/Arcing	2	3
Water Rescue	2	1

5.6 Hazard Analysis and Risk Assessment

Over the past four years, OWFC has had to respond frequently (range of once per month on average or greater) to: structure fires, wildland and grass fires, carbon monoxide calls and motor vehicle accidents. Over the same period, OWFC occasionally (at least once per year) has had to respond to medical calls, an elevator rescue, natural gas leaks, water rescue and power lines down.

In the past six years, OWFC has not required advanced technical rescue services such as trench, confined space or high angle rescue. There has been one HazMat incident.

It is reasonable to assume that a fire department should be authorized and funded to provide services for events that occur frequently. Infrequent events require judgment depending on frequency of occurrence, risks involved, training and equipment expense and availability of specialized rescue services from nearby departments.

Specialized rescue services including trench, high angle, CBRN, HUSAR and confined space are available from Ottawa Fire Services.

Medical calls, water rescue, elevator rescue, propane and natural gas leaks, power lines down occur with sufficient frequency that they could be considered as core services assuming resources are available to provide the required training and equipment.

"Go" Water and Ice Rescue can be a challenge for a small department in terms of the competency required on the part of the trainers and firefighters as well as initial cost and ongoing costs associated with maintenance of equipment. The current E & R By-Law authorizes shore based water rescue only.

The presence of well-travelled County Roads and proximity to Hwy 7 and Hwy 15 as well as potential weather related events such as tornados create the potential for multi-casualty scenarios. Although the probability of such events is low, the consequences are significant. Thus, planning and training for multi-casualty and major environmental events should be incorporated in the training curriculum.

The documentation of building occupancies identified a number of risk concerns including a hospital and other vulnerable person occupancies, schools and legacy buildings. A particular concern is the number of historic buildings that are vacant awaiting future development. It is critical that pre-plans as well as specific inspection and other fire-prevention strategies be developed for these occupancies together with specific training evolutions.

Specific recommendations will be provided in the "Strategic Directions" section of the Master Plan.

5.7 All Hazards Approach

Section 5.6 illustrates that the Ocean Wave Fire Company has a much broader mandate than fighting fires. Fire departments have evolved from primarily fighting fires to becoming increasingly competent in managing a wide range of responses including emergency medical services and incidents requiring highly skilled technical rescue.

At the same time, except perhaps in the Nation's largest cities, Fire Departments cannot be all things to all people. Smaller municipalities simply do not have the financial resources to train and equip firefighters for every potential emergency. Fire Departments must critically examine the breadth and depth of services they provide in light of risks and resources available.

The challenge that presents as a result is the paradox of, on one hand, restricting capability to those services that can be afforded and delivered safely yet, on the other hand, still providing the services that the public requires. A strategy that has emerged to meet this challenge is an integrated emergency management system known as "All-Hazards".

In Canada, the federal, provincial and territorial governments have jointly published *"An Emergency Management Framework for Canada"*[5] which establishes a common approach for collaborative emergency management.

[5] (http://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/mrgnc-mngmnt-frmwrk/index-eng.aspx#a02)

As a core principle, the Framework supports a comprehensive approach to emergency management which is proactive, integrates risk-based measures and is all-hazards. The Framework defines the all-hazards approach as the method by which vulnerabilities exposed by both natural and human-induced hazards and disasters are addressed.

The *Emergency Framework for Canada* articulates the expectation that all emergency management partners in Canada will work in collaboration to keep Canadians safe. The Framework acknowledges that in an emergency, the first response is almost always by the local authorities as that is where incidents occur.

When required resources exceed the capacity of local responders at the municipal level to cope in an emergency or disaster, nearby municipalities should be prepared to assist. If further assistance is required, the Province will respond.

The Federal Government is prepared to respond to requests for assistance by a Provincial or Territorial government. For major disasters, the international community may also respond.

The key steps to implementing an "All Hazards Approach" are:

1) Understand the potential emergencies that could arise in the community that would require a response that exceeds local capability.
2) Develop competencies to manage the initial response.
3) Identify the resources that may be required for a major event.
4) Develop the protocols and agreements to access services that may be required for a major event.

5.8 Risk Assessment Summary

Using an "All Hazards" and considering the identification and probability of incident occurrence, the following response framework is proposed:

Incident Type	**Incident**
Frequent (What we Do)	Structure Fires, Wildland Fires, Medical, MVC, CO, Lines Down, Natural Gas/Propane, Elevator Rescue
Infrequent (What Others do)	High Angle, 'Go' Water/Ice Rescue, Trench, Confined Space, HazMat, HUSAR,
Preparedness (What we prepare for)	Multi Casualty, CBRN, Weather (floods, ice storms, etc.)

6.0 Mission, Vision and Values

A compelling theme in the academic analysis of great organizations is that there is a shared understanding of the organization's purpose, the organization's vision as to where it wants to be, and the values that drive service excellence. This common understanding is fundamental to a positive, constructive organizational culture where performance thrives. Clear articulation of a compelling, inspirational Mission, Vision and Values that genuinely reflects the aspirations and beliefs of the organization is fundamental to this goal.

MISSION (*What we do*)

The Ocean Wave Fire Company is dedicated to enhancing public safety by protecting life, property and the environment through public education, fire prevention and excellence in emergency response.

VISION (*What we aspire to do*)

By continuing our tradition of professional emergency response, relentless dedication to training and education, continuous improvement and innovation, we will provide service excellence that exceeds expectations.

VALUES (*Who we are*)

To serve our Mission and achieve our Vision, we are committed to the following Values:

Respect: *We value the contributions of all who serve and appreciate the unique contributions that all bring as members of our team. We value diversity and are committed to build an organization that is reflective of the community we serve.*

Teamwork: *Our success is dependent on our ability to work as a cohesive, high performing team.*

Excellence: *We are committed to the continuous pursuit of excellence in all we do through training, innovation, and mentoring. We honour our traditions while welcoming ongoing change required to better serve the community.*

Safety*: We are dedicated to enhancing and sustaining a culture of safety. In all we do, our priority must be the safety of the public, our community and ourselves.*

Accountable: *We recognize that we are supported by public funds and are committed to delivering value in all we do. Our pride in what we do is reflected in the care and maintenance of our equipment and apparatus and our delivery of efficient and effective services. Our service model must reflect the needs of the community we serve and we must embrace changing technologies and methods that improve cost effective delivery of services.*

7.0 Strategic Directions:

The following Strategic Directions have been developed to provide a framework to guide the further achievement of the OWFC's Vision over the next 5 years.

1) ***Safe Community – Commitment to deliver effective Public Education, Fire Prevention, Fire Inspection, Fire Suppression and Rescue Services***
2) ***To Support a Culture of Safety***
3) ***Accountability***
4) ***Supporting Innovation***
5) ***Strategic Management***
6) ***Collaborative Relationships***

7.1 Strategic Direction #1: *Safe Community – Commitment to deliver effective Public Education, Fire Prevention, Fire Suppression and Rescue Services*

The strategic Direction "Safe Communities" recognizes the primary imperative of achieving optimal implementation of the three lines of defense as defined by the Ontario Fire Prevention and Protection Act (FPPA). Section 2 of the FPPA provides that:

> *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.*

This section of the Act refers to what is known as the three lines of defense required to keep communities safe:

I. Public Education and Prevention*:*

Educating residents of the community on means for them to fulfill their responsibilities for their own fire safety is a proven method of reducing the incidence of fire. Only by educating residents can fires be prevented and can those affected by fires respond properly to save lives, reduce injury and reduce the impact of fires;

II. Fire Safety Standards and Enforcement:

Ensuring that buildings have the required fire protection systems, safety features, including fire safety plans, and that these systems are maintained, so that the severity of fires may be minimized,

III. Emergency Response:

Providing well trained and equipped firefighters directed by capable officers to stop the spread of fires once they occur and to assist in protecting the lives and safety of residents. This is the failsafe for those times when fires occur despite

prevention efforts.

In the following sections, the current status of the program elements will be discussed and opportunities for further development will be noted.

7.1.1 Fire Prevention and Public Education

Public Education and Prevention as well as promoting and enforcing fire safety standards are critical strategies to reducing loss of life and property due to fires. Public education regarding smoke and carbon monoxide alarms, fire prevention, reducing fire hazards and having home escape plans is a proven method of preventing fires and reducing injuries and deaths. Working collaboratively with emergency response providers such as police, emergency medical services and hospitals can extend this approach to reduce injuries, death and property loss due to motor vehicle and other accidents.

OWFC has been a leader in recognizing the need for, and providing resources to provide pro-active public education and fire prevention strategies. Current staffing includes two full time Training/Fire Prevention Officers who take the lead in public education, fire prevention and fire inspection activities.

Specific Public Fire Education and Safety Programs that are currently in place include:

- **Institutional Visits:** Yearly visits to Schools to teach fire safety with 'Sparky' and do a Fire Drill. Visits to Nursing Homes, Retirement Homes, Seniors Homes, Hospital to observe Fire Drills and provide specific advice and consultation.

- **Social Media:** Spread fire prevention messages throughout the year through the newspaper and social media including Facebook, Twitter as well as the municipal and OWFC website.
- **Smoke/CO Alarm Program**: OWFC provides a Smoke Alarm Program that promotes the installation and maintenance of working smoke alarms in dwelling units. The smoke alarm program includes home escape planning. Firefighters responding to dwelling units will test smoke alarms and will provide a smoke alarm if required to ensure that there is a working smoke alarm prior to their departure. Information regarding the installation and maintenance of smoke alarms and the preparation and practicing of a home escape plan is distributed to the public at special events.
- **Carbon Monoxide Alarms:** Regulation 194/15 to amend the Fire Code came into effect October 15, 2014 which requires carbon monoxide alarms near all sleeping areas in residential homes and in the service rooms, and adjacent sleeping areas in multi-residential units. Carbon monoxide alarms are checked along with smoke alarms as noted above.

  Penalties for non-compliance are the same as those for failing to have a smoke alarm. Inspectors can issue tickets or lay charges that could result in fines of up

to $100,000 for individuals and $1,500,000 for companies. Although it is possible to issue fines, the emphasis is on public awareness and education.

- **Home Visits**: There are door to door visits in place to promote smoke alarms as well as other public education activities. Due to time constraints, it is a challenge to involve volunteer firefighters in these activities.
- **Distribution of Fire Safety Information:** Includes distribution of fire safety educational material to the public at community events and other opportunities. Fire Safety pamphlets and/or other education materials, public service announcements utilizing the available media and through instructions to the public on fire safety matters at various group functions and public events are examples of public education and awareness activities undertaken.

  Another opportunity is having a Fire Station Open House during Fire Prevention Week to hand out fire prevention materials and answer questions. Fire Prevention displays can be set up at major retail stores. Participation in parades can also and other special events provide an opportunity for public education.

Potential future programs that can be considered with additional resources include:

- **Fire Safety Education for Children:** This is a potential future program to provide and/or support a variety of fire safety education programs for children in the community such as the *Learn Not to Burn Program*.

  The *Learn Not to Burn* initiative is based on the Canadian edition of the National Fire Protection Association's popular children's educational series. The program has been released by the Canadian Council of Fire Marshals and Fire Commissioners and is in use in many Canadian Fire Departments. The program encourages teachers, preschool educators and parents from Ontario to access the made-for-Canada edition of the *Learn Not to Burn* curriculum. Teachers can download free *Learn Not to Burn* lessons at www.safeathome.ca/lntb, and parents can support the effort at home by using the online family fire safety activities.

  Another example of a relevant Fire Safety Program is the "*Hear the Beep Where You Sleep: Every Bedroom Needs a Working Smoke Alarm*". This program reinforces the importance of being able to hear smoke alarms at night when families are sleeping.

  The website and classroom lessons target children aged three to eight to learn how to recognize the smoke alarm beep, what to do when it sounds, the fundamentals of a home fire escape plan, and how to tell between things that are hot and cold.

- **Kitchen Fire Safety Program '*Put a lid on it*'** Kitchen fires are a leading cause of preventable fires. This program focuses on the right and wrong way to manage fires in the

kitchen.

- **Fire Safety Education for Seniors**: This is a potential future initiative that provides public fire safety education programs such as the Older & Wiser Program in the community to address the fire safety concerns facing seniors.

  Continuing to focus on this age group and implementing the fire and falls prevention program such as "*Remembering When*" will be an important priority for future development. This can be done in partnership with community agencies that provide support services to seniors. The focus of the program is on group presentations and home visits including fire and falls safety presentations and assisting with home visit inspections and smoke and carbon monoxide alarm installations.

- **Public Campaign to encourage voluntary inspections**: A public campaign using social media and other communication methods can be initiated to create awareness and encourage visits by OWFC staff to do home fire safety visits. This program could be specifically targeted to renters to ensure rental accommodations are compliant with fire safety requirements.

- **Guest Speakers**: Fire Services Personnel can provide fire safety lectures and/or demonstrations for various audiences such as industries, community groups, service clubs, business groups, daycare facilities and schools, upon request and where resources are available.

OWFC's Operating Guideline OG-A-1 addresses public education and fire prevention. Ideally, there should be specific Operating Guidelines to address the activities noted above.

Although there is little public policy direction or regulatory requirement to collaborate with other local organizations concerned with community life safety, there is a clear leadership opportunity for Fire Departments to work collaboratively with police, EMS and others to focus on local priorities to reduce injuries and fatalities. Collaborative programs to address ice safety, school bus safety, and not driving when using drugs or alcohol are examples of collaborative community risk reduction programs.

Recommendation #1: ***Following best practice examples, a comprehensive public education program designed to prevent fires, injury, death and property loss should be developed with specific policy statements and operating guidelines as appropriate.***

Recommendation #2: ***The public education program should identify priority objectives targeted to areas of greatest risk identified through risk assessment including review of fire cause analysis, focus on provincial priorities including smoke and CO Alarms and should address high risk populations including children and seniors. In partnership with other first responders, the program should address public education priorities designed to reduce injury and fatalities due to motor vehicle and other accidents.***

7.1.2 Fire Inspection and Enforcement:

Building owners are responsible for ensuring buildings are maintained according to the requirements of the Fire Code. By working collaboratively with building owners, OWFC can create awareness, and where necessary enforce fire safety standards to ensure that buildings have the required fire protection systems and are properly maintained.

In so doing, fires are prevented and resulting damage or loss of life associated with fires that do occur is reduced. Fire Departments have a significant interest in ensuring buildings are maintained according to the Fire Code not only to ensure public safety and meet legislative requirements but also to protect the safety of their personnel who have to respond to a fire.

Fire Departments are required to have a program in place to address inspections based on request or complaint or otherwise provided by specific law. A department may develop and implement additional fire safety inspection protocols to include a routine fire safety inspection program for other occupancies as determined by the community risk assessment.

OFMEM-TG-01-2012 "Fire Safety Inspections and Enforcement" provides an overview of *inspection and enforcement authority under the Fire Protection and Prevention Act* (FPPA) and the *Provincial Offences Act* (POA).

A summary of the frequency of fire inspections is presented in Table 8.

Table 8: OWFC Inspections by Year 2012 - 2018

Year	Inspections
2012	403
2013	322
2014	296
2015	438
2016	323
2017	368
2018	346

OG –A-2 outlines the Fire Safety Inspcction Program. This OG should be reviewed to ensure that it outlines a comprehensive fire inspection program that identifies the type of occupancies and priority for formal inspections (required) and proactive "consultations"[6].

[6] *There can be great resistance to cooperation on the part of property owners if there is a threat of fines or other punitive measures associated with fire inspections. Whether or not there is authority under law to undertake an inspection, compliance and good will is greatly facilitated with an approach which is based on education and "I'm here to help". Thus the word "consultation" is used to suggest a helpful approach where inspections are voluntary and one wishes to encourage an invitation.*

The fire safety inspection program should reflect the community risk assessment, historic incident report and fire investigation data, fire hazards that are reported by the public and other officials as well as legislated requirements.

Inspections on complaint or request basis should continue as set out in O. Reg. #365/13.

Fire Prevention Officers (FPO) have various enforcement options available to them such as Inspection Orders, Part I Certificates of Offence, and Part III Information and Summons. The FPOs should have the ability to use discretion when applying measures to enforce fire code requirements depending on the circumstances and in keeping with OWFC policy.

The Fire Inspection OG should include policies and procedures for Fire Code inspections including procedures for:

- The requirement that a copy of an inspection order that requires repairs alterations or installations made to a building be provided to the Chief Building Official.
- A system and related processes for the management of fire prevention documents and records to be kept in a secure location and allow rapid retrieval of follow-up inspection reports and other related information that may be required.
- Follow-up inspections including a database that provides a method for tracking and highlighting due dates.
- Ongoing tracking and reporting of number and type of inspections including high-risk type occupancies, Group C multi-residential, Group B care and care and treatment, retirement homes and Group F industrial.
- Involvement of suppression staff conduct annual in-service smoke alarm checks along with home escape planning and checking for carbon monoxide alarms during the site visit.
- Development and use of Residential and Apartment Fire Safety Program tracking sheets to be completed by the suppression crews and given to the Training/Fire Prevention Officer.
- Procedure for the Fire Prevention Officer to follow- up with any occupancy that is not compliant with the Fire Code.
- Development of a home inspection program is focused on Group C residential occupancies and other high risk occupancies identified through the Risk Assessment as representing the highest risk for loss of life and property.
- Identifying backlog of inspections and delays in Fire Code enforcement measures.
- Communication and management of occurrences of multiple alarms at the same property
- Assessment and determination of the need for a fire safety inspection when a complaint or request is received.
- Specific inspection (consultation) process and schedule for high risk agricultural facilities (barns, equestrian facilities, major livestock operations).

- Specific fire safety inspection practices including content of inspection files which should include inspector's notes, building audits, fire alarm and protection systems verifications, photographs, building plans, occupancy permits, fire safety plans, and enforcement records as applicable as per OFMEM "Technical Guideline #01-2012: Fire Safety Inspections and Enforcement".[7]

Due to the number of buildings and structures and limited resources, it is not possible to conduct proactive inspections of all buildings every year. Thus, inspections need to be priority ranked based on risk. Table 9 illustrates the occupancies that can be prioritized to support this risk-based approach. The suggested frequency of inspections is noted for each occupancy type.

Table 9: Suggested Format to Identify Target Objectives for Proactive Inspection.

Occupancy	Total Number of Occupancies	Ave. Hours for Inspection	Total Hours Required	Inspection Frequency
Group A: Assembly	14			Annual
Group B: Institutional	16			Annual
Group C: Residential (single, Detached)	2,422			TBD
Group C: Residential, Multiple	1,313			Every 3 Years
Group D & E: Business & Commercial	191			Bi-Annual
Group E:Commercial	191			Bi-Annual
Group F: Industrial	58			Annual
Total Hours Required per year				

Table 9 enables the opportunity to predict the time required to do inspections. This will be helpful in assessing required resources. It can be anticipated that comprehensive inspection, public education and other fire prevention activities will likely exceed what can be provided with the current Training/Fire Prevention Officer staffing. Additional staff, therefore, will likely be a future budget priority.

In addition to the inspections noted in Table 9, opportunities to do joint inspections with the appropriate authority of occupancies such as Hydro sub-stations, solar farms and pipelines should be actively pursued

There is an excellent and close relationship with the OWFC and Chief Building Official. This relationship should be supported and the FPOs and Fire Chief should

[7] http://www.mcscs.jus.gov.on.ca/english/FireMarshal/Legislation/TechnicalGuidelinesandReports/TG-2012-01.html

continue to be involved as appropriate with building inspections and building permit applications.

Recommendation #3: OWFC *review Fire Inspection Operating Guidelines OG-A-2 to ensure that the procedure:*

- ***Fulfills the Requirements of Ont. Reg 150/13, The Fire Code.***
- ***Augments the statutory requirements for fire inspection with pro-active, risk-based 'consultation' visits with annual targets established.***
- ***Includes a home visit program for residential dwelling units to encourage installation and maintenance of smoke alarms and carbon monoxide alarms.***
- ***Specifies the appropriate involvement and role of fire prevention personnel in the examination of plans and specifications of permits for new or renovated buildings for compliance with applicable fire regulations.***

To be compliant with the FPPA requirement that "*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,* the Municipal Establishing and Regulating By-Law should reflect the requirement to develop an effective fire prevention, inspection and public education programs.:

Recommendation #4: *It is recommended that the Establishing and Regulating By-Law be reviewed and revised to require the Chief to develop and provide an effective fire prevention program that will:*

a) Ensure, through plan examination and inspection, that required fire protective equipment is installed and maintained within buildings,

b) *Reduce or eliminate fire hazards,*

c) *Ensure compliance with applicable Municipal, Provincial and Federal fire prevention legislation, statutes, and codes in respect to fire safety, and*

d) *Develop and maintain an effective public information system and educational program, with particular emphasis on school fire safety programs, and commercial, industrial and institutional staff training.*

7.1.3 Fire Origin and Cause Determination

Investigation to determination cause and origin of fires is an important component of a comprehensive fire prevention and protection strategy to achieve the following objectives:

- Compliance with Fire Marshal Directive 2015-002: "Reporting of Fires and Explosions Requiring Investigation" which requires that Assistants to the Fire Marshal must follow and complete a standard incident report for every response made by a Fire Department following Fire Marshal Directive 2015-001: "Standard Incident Report (SIR) Filing."
- Fire investigation information is essential to developing and setting priorities for fire safety education programs,
- Fire investigations may identify need for criminal investigation and prosecution
- Ensure that there is follow-through on identified fire safety issues from municipal and OFMEM assisted investigations, and

SOP-O-8 provides the procedure for gathering pictures for suspicious fire scenes and comments on preserving continuity of evidence. The SOP outlines the process for taking notes and documenting evidence during a fire investigation. An additional or augmented SOP is recommended to describe a comprehensive fire cause and investigation program including fire investigation/fire scene assessment practices and procedures, required staff training (firefighter, company officer, senior officer, and Training/Fire Prevention Officer), documentation requirements, secure storage for documents, scene security, and procedure to contact senior officers and the Ontario Fire Marshal[8].

It is anticipated that the Training/Fire Prevention Officer will be the designated OWFC lead for fire investigations and will have or receive advance training through recognized courses i.e. training in fire and explosion investigations from the National Association of Fire Investigators International (NAFI).

Recommendation #5: ***SOP-O-8 Fire Cause Determination should be reviewed and/or augmented to address:***

- ***The need to investigate and report on cause and determination.***
- ***Process and procedures to be used to investigate fires.***
- ***Protocol for notification for the Training/Fire Prevention Officer and other senior officers.***
- ***Protocol for notifying the Ontario Fire Marshal and police.***
- ***Required documentation and procedure for secure storage of records.***

[8] Fire Marshal's Directive 2015-002 regarding thresholds for dispatching an OFMEM Investigator.

- ***Process for review as part of ongoing development of fire prevention and public education strategies.***

7.1.4 Fire Safety Plans

Under Section 2.8 of the Fire Code, an approved fire safety plan (FSP) is required for specific buildings or premises including:

- an assembly occupancy,
- a care occupancy,
- a care and treatment occupancy,
- a detention occupancy,
- a residential occupancy where the occupant load exceeds 10,
- a retirement home,
- a business and personal services occupancy where the occupant load exceeds 300,
- a mercantile occupancy where the occupant load exceeds 300,
- a high hazard industrial occupancy where the occupant load exceeds 25,
- a medium hazard industrial occupancy where the occupant load exceeds 100,
- a low hazard industrial occupancy where the occupant load exceeds 300.

An occupancy of 4 storeys or more.Fire safety plans for such occupancies are required to be submitted to the Fire Department for evaluation and approval. Fire safety plans need to be approved by Fire Department officers who are authorized to do so. There should be a signed letter of designation from the fire chief designating members of the department as chief fire officials for the purpose of approving fire safety plans.

Officers approving fire safety plans for vulnerable occupancies need to have the required *"Improving Fire Safety for Vulnerable Ontarians: Training for Chief Fire Officials"* on-line course offered through the Public Service Health & Safety Association

There should be a specific policy/operating guideline that outlines the procedure for fire safety plan review and approval which references a fire safety plan audit checklist. The policy/OG should include the requirement that Fire safety plans should be shared with fire suppression staff as part of ongoing training. The policy/OG should also reference that applicable information from the fire safety plans should be incorporated into pre-incident plans, i.e. utility shut-offs, floor plans and emergency contacts.

Recommendation #6: ***A specific operating guideline should be developed for fire safety plans which require that 1) an inventory of all occupancies in the municipality which require fire safety plans be identified as well as the frequency of***

inspection, and 2) sets out the requirement for reporting to Council that required occupancies have a fire safety plan in place.

7.1.5 Pre-Planning

Pre-Planning refers to a process of identifying high-risk residential, industrial, institutional and commercial buildings and providing information to assist potential suppression and/or rescue requirements. Information regarding access, nature of the occupancy, potential hazards, entrances and exits as well as potential water supply can be difficult to obtain during an emergency incident and should be identified in a manner that is readily accessible and useful to suppression personal.

Pre-planning can be effectively combined with inspection activates and review of fire safety plans. Pre-Planning can provide an opportunity for firefighters and fire protection officers to work with building owners and/or management to gather information prior to an emergency. It provides an opportunity to develop familiarity with the layout of buildings, size, type of construction, number of stories, and occupants as well as the type of life safety systems, location of water shutoffs, controls, response points, road access and any hazardous materials.

OG-O-11 Incident Pre-Planning addresses the basic requirements of a pre-plan. The OG should be reviewed and revised to ensure that there is clear assignment of organizational responsibility for developing fire pre-plans, a schedule, priorities and targets for the development, review and revision of pre-plans and provides for the incorporation of firefighters in the development and on-going review of pre-plans.

As part of their ongoing professional development, firefighters should receive training on developing pre-incident plans and receive training on the actual pre-plans during training exercises.

The pre-plan OG should refer to a pre-plan checklist that contains best practice components including:

- estimated fire flow requirements, apparatus placement, hazards present and information regarding exposures
- processes to access additional resources through mutual aid or other agreements
- utility shut-offs, floor plans, and emergency contacts

Recommendation #7: ***OWFC should review and revise OG-O-11 Operating Guideline for Pre-incident Planning to: reflect best practice methods for pre-plan development, target objectives for the number of pre-plans to be developed annually, and organizational responsibility.***

Recommendation #8: ***That Pre-Plan development be coordinated with suppression training to facilitate effective and safe emergency response.***

Although there is a close, collaborative working relationship with the Building Department, this relationship can benefit from a more formal undertaking. Written policy and procedures can help define the respective roles of building and fire officials and provide a protocol regarding the review and approval of building permits, plans and proposed developments. Kingston Fire has an excellent policy document in this regard. This document can serve as a reference document to begin the conversation regarding a policy and procedure appropriate for the Ocean Wave Fire Company.

Recommendation #9: ***That a policy and procedure be developed regarding the respective roles of the OWFC and Buildings Department with respect to building permit and planning application approvals as well as building inspections.***

7.1.6 Vulnerable Occupancies:

As of January 1, 2014, Ontario Regulation 150/13 amended the Ontario Fire Code to enhance the fire safety of occupants in care facilities such as nursing homes, retirement homes and other care occupancies where residents may not be able to self-evacuate. The new requirements include the requirement for:

- An up-to-date and approved fire safety plan,
- An annual fire drill using a scenario prepared by the occupancy owner and approved by the Chief Fire Official which will include a fire service assessment of performance targets for the drill, and recording of the drill by the Chief Fire Official.
- Mandatory Inspections to ensure fire protection systems are up to date.

Under the new regulation, persons responsible for implementing fire safety plans in vulnerable occupancies must successfully complete a qualification course. Fire Officials who are responsible for approving fire safety plans must also complete a qualification course.

Fire Marshal Directive #2016-001 provides direction regarding Notification Requirements for Serious Fire Risks in Long Term Care and Retirement Homes.

Recommendation #10: ***A specific OG should be in place for the inspection program for vulnerable occupancies which addresses:***

- ***Identification of vulnerable occupancies and registration with the OFMEM***
- ***Review of fire safety inspections files and required updates to the Vulnerable Occupancy Registry.***
- ***Requirement that the Fire Officials who are responsible for approving a fire safety plan for a building containing a care occupancy, a care and treatment occupancy or a retirement home has successfully completed a program or course acceptable to the Fire Marshal***
- ***Procedure for conducting spot audits***

- ***The use and understanding of applicable legislation and Fire Marshal Directives as demonstrated through documentation and records,***
- ***Use of a Fire safety inspections checklist to conduct inspections as per Fire Marshal Directive 2014-002***
- ***Procedures for the approval of fire drill scenarios and evaluation and approval of fire safety plans.***
- ***Monitoring compliance with new Fire Code requirements as applicable such as self-closing devices, emergency lighting sprinkler systems, automatic notification of the Fire Department, and smoke alarms in each suite***

Although not required by law, expansion of the annual inspection program to multi-residential facilities or group homes which may be housing vulnerable individuals would be prudent. Further, as noted in the Hazards Identification Section, resident needs may change such that the vulnerable occupancies requirements may apply.

7.1.7 Fire Station Building Assessment

The OWFC has one station located centrally within the Town at 15 Coleman Street. Although constructed almost twenty-five years ago in 1995, the building has many contemporary features including 4 double bays, one single bay, administrative offices, and a dedicated training room with excellent kitchen facilities.

Figure 11: OWFC Fire Station

The building is shared with the Ontario Provincial Police who occupy approximately 40% of the 1,735 sq. m. building. Figure 9 illustrates the OWFC station location in relation to the Town boundaries and nearby fire stations.

Compliance with current post disaster standards is unknown and should be investigated to determine feasibility and costs to upgrade.

Shower facilities are adequate with both male and female showers provided. A shower facility located in the bay area designed specifically for rapid decontamination would be an asset.

Bunker gear is currently stored on the apparatus bay floor as well as on the Rescue Truck. With growing evidence of a link between cancer in firefighters to toxins that collect on firefighters' bunker gear after fighting fires, current fire station design often incorporates decontamination facilities and bunker gear storage rooms where bunker

gear can be stored afterward[9].

The decontamination area is designed to be accessed from the apparatus bay where firefighters can strip, shower, and access extractors and dryers to clean contaminated gear. Cleaned bunker gear is then stored in another room to off-gas properly. Ideally, the decon and PPE storage room should have their own separate heating, ventilating, and air conditioning and exhaust systems such that administrative areas have relative positive pressure and decon and gear storage areas have negative pressure

For a volunteer department, ideally, the bunker gear storage area is located with an entrance to the parking lot so the firefighter can respond from the parking lot into the bunker gear space, grab their gear, and move to the apparatus bays.

Recommendation #11*: **A study should be initiated to investigate potential upgrades to Station #1 to: 1) comply with post-disaster requirements, 2) to provide rapid decontamination showers and related amenities, 3) provide a dedicated room for bunker gear storage, and 4) additional offices for fire prevention and public education.***

The Fire Station training room functions as the Town's Emergency Operation Centre. There are advantages to this designation as the station is secure, there is a separate entrance to the training room, and there are proximate kitchen and washroom facilities. However, in the event of a significant, extended operation, use of this facility as a EOC would preclude firefighters from using the facility for rest, meals or use as a temporary dormitory.

Long range planning should consider an alternative primary EOC location for the Town. The Fire Station can serve as a secondary EOC location. Long Range planning should also anticipate the need to provide sleeping accommodation for full-time firefighters in the future.

7.1.8 Fire Station Location Analysis

This section will review current standards and comment on current location in the context of the standards, current hazards and response experience.

The two primary references for response time guidelines are the National Fire Protection Association (NFPA) 1710 and 1720 standards and the Ontario Fire Marshal (OFMEM) guidelines.
The OFMEM Fire Ground Staffing Guideline requires the arrival of 10 firefighting personnel (with appropriate apparatus) in 10 minutes total response time for 90 percent of incidents.

NFPA 1720 is the standard for organization and operations for a volunteer

[9] For an excellent review article regarding fire station design and decontamination see https://www.fireapparatusmagazine.com/articles/print/volume-22/issue-8/features/turnout-gear-decon-spaces-in-fire-stations.html

department. NFPA 1710 applies to full-time Departments. NFPA 1720 defines a volunteer Fire Department as one having volunteer emergency service personnel comprising 85 percent or greater of its department membership. NFPA 1720 provides response times based on population density as follows:

- Urban Zones with greater than 1000 people/sq. mi. call for 15 staff with a response time of 9 minutes, 90 percent of the time;
- Suburban Zones with 500 to 1000 people/sq. mi. call for 10 staff with a response time of 10 minutes, 80 percent of the time;
- Rural Zones with less than 500 people/sq. mi. call for 6 staff with a response time of 14 minutes, 80 percent of the time; and,
- Remote Zones with a travel distance greater than or equal to 8 mi. call for 4 staff 90 percent of the time. Upon assembling the necessary resources at the emergency scene, the Fire Department should have the capability to safely commence an initial attack within 2 minutes 90 percent of the time.

While NFPA standards generally have no legal status in Canada, [10] they are based on the collective experience of professional firefighters and technical research and are widely accepted as defining best practice.

The Town of Carleton Place has a population density of more than 1,000 persons per sq. mi., so the NFPA 1720 urban zone response time would apply. Thus, the performance target would be *15 staff with a response time of 9 minutes, 90 percent of the time.*

The Station is located in the centre of Carleton Place and no further than 2.5 km to any of the Town's boundaries. Thus, the Station is ideally located to enable achievement of the standard. Staffing to achieve this standard is another matter and will be addressed in the section on "Staffing".

Figure 12: Location of OWFC and nearby Fire Stations

Ongoing monitoring of call volumes, response times and number of personnel responding as well as future residential and other development will be important to ensure station number and location remains adequate.

[10] There are some specific NFPA requirements specified by Statute.

Recommendation # 12: OWFC *should develop an Operating Guideline that addresses procedures for documenting, recording and reporting response times excluding calls cancelled on-route or incident not found such that the average response time for the first arriving apparatus and responding personnel can be determined as a percent of calls and by type of call.*

Should the Town's boundaries expand and development significantly increases, another station may be required. OWFC should maintain regular contact with the Planning Department to anticipate future requirements and consider a designating site for an additional station.

7.1.9 Water Supply

Carleton Place is fully serviced by a municipal water supply and hydrants are available to enable effective fire protection and fire suppression. Proximity of hydrants in Carleton Place also assists fire suppression in neighbouring rural areas by providing a readily accessible water source for tanker shuttles.

Routine testing and maintenance as well as marking of hydrants to indicate flow capability are critical requirements to ensure that effective water supply will be available when required.

The Ontario Fire Code requires that municipal hydrants shall be maintained in operating condition.[11] Hydrants are to be inspected annually[12] and Hydrants are to be colour-coded indicating their respective available liters-per-minute capacity.[13] NFPA requires flow testing of underground and exposed piping at least once every 5 years[14].

The Public Works Department should have a policy and procedure for annual inspection, flow testing and colour coding. The policy should address:

1. The requirement for hydrants are to be accessible and clear from snow,
2. A procedure for inspection,
3. A procedure for Fire Flow Testing based on AWWA M17 "Flow tests",
4. Frequency of flow testing,
5. A process whereby the Fire Department is advised of a hydrant that is out of service and when the hydrant is back in service,
6. Documentation and reporting.

Recommendation #13*: That the OWFC collaborate with the Public Works Department to ensure that there is a comprehensive Policy and Procedure for the maintenance, accessibility, inspection, flow testing and colour coding of public hydrants in the Municipality.*

[11] Fire Code Part 6 Subsection 6.6.4
[12] Fire Code Part 6 Subsection 6.6.5
[13] Fire Code Part 6 Subsection 6.6.6.1
[14] NFPA 25, Table 7.1.1.2, 2014

Senior OWFC staff should meet at least annually with Public Works staff to review flow test results as well as the design of the municipal hydrant system. This review should identify any areas of concern where available flow may be insufficient for the occupancies that require protection. Older sections of the Town where there may be redevelopment from, for example, 1,200 sq. ft. single story dwellings to 4,000+ sq. ft. dwellings may have insufficient flow capacity to manage a fully involved structure fire. By identifying areas where water flow may be insufficient, contingency plans to use other hydrants, drafting from a water source or tanker shuttle can be pre-planned.

The procedure for private hydrant inspection is currently under review by OWFC. With additional fire protection and inspection resources as recommended in this plan, private hydrant testing should be included as part of an overall fire inspection and compliance program.

7.1.10 Dispatch and Radio Communication

OWFC participates in the Lanark County Fire Dispatch and Radio system. Dispatch services for the County including OWFC are provided by the Smith Falls Fire Department. Emergency Calls are received by the dispatch centre from the 911 Central Emergency Reporting Bureau (CERB) located in the OPP Communication Centre in North Bay. The Dispatch Centre notifies the appropriate Fire Department of that emergency by pager. The Computer Aided Dispatch (CAD) system receives details from the 911 CERB of Municipality name, location (number and street and/or road name), and phone number.

The Smiths Falls Fire Department Fire Dispatch Centre follows NFPA 1221 Standard such that emergency calls are answered within 15 seconds for 95% of calls and within 40 seconds for 99% of the call. NFPA 1221 requires that the communications centre must dispatch the emergency call to the appropriate Fire Department within 60 seconds.

The radio system used for fire communications consists of a Dispatch to hub microwave link and a microwave link from the hub to eight towers located within the County. VHF transmissions are simulcast to Fire Department mobile and portable radios as well as pagers. There is a dedicated, common frequency for dispatch including paging and one tactical frequency for operations. Both the dispatch and operations frequencies are recorded. The OFMEM provincial common frequency is available from one tower and is available for local communication.

Protocols exist to implement the Lanark County Mutual Aid Plan for major or multiple incidents whereby additional resources may be dispatched as required.

There have been reception issue concerns with Lanark County's fire communications system. In February, 2018, concerns were presented to the County's Corporate Services Committee. It was noted that although the County Fire Radio System works well in most areas, there were reception issues in specific areas and buildings.

In response to the concerns, the Lanark County initiated a Fire Communications Infrastructure Review. This review was presented in August 2018 to the Corporate Services Committee (Report #ESC-04-2018). The review concluded that overall the system was working well based on Fire Department feedback and field testing. The Review noted that there was radio system function limitations associated with steel clad buildings, areas of low terrain or areas below grade.

The review recommended that the a program be developed to 1) enable understanding of communication system limitations, 2) continue ongoing monitoring of the limitations that exist when using portable and/or mobile radios and 3) improve radio operating procedures including relocation of responder transmitting location and utilizing relay from portable to mobile devices.

Recommendation #14: OWFC *continue to monitor and document radio transmission issues, identify known locations where radio transmission may be compromised, continue with training and awareness regarding procedures to minimize impact of radio transmission limitations and investigate options to improve transmission reliability including mobile repeaters and/or additional towers.*

The County's Radio System utilizes one frequency for dispatch and paging and has another frequency for operations. In practice, crews responding to an incident indicate their response status on the dispatch frequency and when on scene, may request use of the operations/tactical frequency as required.

There have been numerous issues reported of excessive radio traffic over the dispatch frequency that can interfere with dispatch priority transmissions including booking trucks out of service and firefighters/officers responding on portable radios. Protocols have been put in place to reduce unnecessary transmissions.

The other issue that has been reported is management of simultaneous issues where the single operations frequency has to be shared. This is a critical safety issue as prompt transmission and response is required during an emergency response such as a 'Mayday' call for a trapped firefighter. This issue will become more acute as emergency response incidents increase with additional growth in the County.

Recommendation #15: *In collaboration with the Lanark County Fire Departments and Lanark County Officials, OWFC request that additional operational (tactical) frequencies be made available for the safe and effective management of simultaneous fire and rescue emergencies.*

All Firefighters and Officers are assigned portable radios. Apparatus are provided with mobile radios as well thus there are sufficient radios to ensure each Firefighter in the 'Hot Zone' has a radio and to ensure all Firefighters operating in an interior search and rescue or fire attack will have a radio should a Firefighter become trapped or separated. The annual budget includes funds to purchase a number of portable radios and pagers each year to 'evergreen' the current inventory.

Fire radio communication systems have evolved significantly over the past 20 years and larger municipalities (i.e. Ottawa) as well as some County Systems (i.e. Leeds & Grenville and United Counties of Prescott Russell) have migrated to a digital system. There are 3 basic digital system upgrade paths for fire radio communications:

- Analogue/Digital Systems offered by third party vendors (i.e. Turris Communications).
- P25 Systems: systems that conform to the P25 standards enable the transfer of data as well as voice and control of transmission by specific radios over a limited number of frequencies. This technology allows multiple "talk channels" for multiple incident management situations without increasing the number of frequencies available, allows identification of specific radios including an identifiable "Man Down" alarm, and improved security as unauthorized monitoring can be restricted. However, the equipment associated with these systems is expensive.
- FleetNet: FleetNet is the provincial government system which is used by the Ontario Provincial Police and EMS. This system may offer a number of significant advantages over other systems including interoperability with Police and Paramedic Services.

Recommendation #16: ***In collaboration with the Lanark County Fire Departments, OWFC continue to monitor the availability and implementation for fire radio technology advances and plan for future technology upgrades.***

7.1.11 Apparatus

The OWFC has a modern fleet of equipment sufficient to provide the services authorized by By-Law. The fleet includes:

Ladder 210 - 2004 Seagrave Marauder 100'

Pumper 220 - 2017 Spartan Metro Star / Arnprior

Pumper 221 - 1996 Volvo WX / Almonte

Rescue 240 - 2010 Spartan Gladiator / Eastway walk-in heavy rescue

Car 270 – 2019 Ford Expedition

Truck 271 - 2014 Dodge pickup

Truck 272 - 2014 Dodge pickup

Car 273 - 2016 Kia Sorrento

Key standards that apply to fire apparatus inspection, maintenance, testing and retirement include:

- NFPA 1906: Standard for Wildland Fire Apparatus.
- NFPA 1911: Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus.
- NFPA 1912: Standard for Fire Apparatus Refurbishing.

There are no mandated timelines for apparatus retirement. Annex D of NFPA 1911, however, recommends that apparatus that are 25 years old should be retired. Annex D in NFPA 1911 is not written as a standard rather as a recommendation. [15]

A consideration in assessing when to retire or replace fire apparatus is the Fire Underwriters Survey *Insurance Grading Recognition of Used and Rebuilt Fire Apparatus*[16]. For residents and businesses of a community to benefit from maximum possible insurance discounts, the requirements of the Fire Underwriters Survey need to be met.

In summary, FUC requires:

a. Apparatus are built to applicable ULC S515 or NFPA 1901 standards.

b. Apparatus should respond to first alarms for the first 15 years. For "medium communities" such as Carleton Place, apparatus between 16 and 20 years can be considered "second-run".

c. Be retired at 20 years of age, unless the apparatus meets the recommended annual, service and acceptance level tests and has been deemed in excellent mechanical condition

d. Testing includes, weight, road and pump performance tests.

e. Testing and maintenance only be completed by a qualified technician.

The specific FUC service schedule for Fire Apparatus is presented in Table 10.

Table 10: FUC Service Schedule for Fire Apparatus

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

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

[2] Exceptions to age status may be considered in a small to medium sized communities and rural centres conditionally, when apparatus condition is acceptable and apparatus successfully passes required testing.

[3] Major Cities are defined as an incorporated or unincorporated community that has:
- *a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND*
- *a total population of 100,000 or greater.*

[4] Medium Communities are defined as an incorporated or unincorporated community that has:
- *a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND/OR*
- *a total population of 1,000 or greater.*

[5] Small Communities are defined as an incorporated or unincorporated community that has:
- *no populated areas with densities that exceed 200 people per square kilometre; AND*
- *does not have a total population in excess of 1,000.*

[15] https://www.fireengineering.com/2017/08/01/280711/the-basics-of-apparatus-purchasing-q-a/#gref

[16] http://www.firecomm.gov.mb.ca/docs/nfpa1911.pdf

In addition to considering NFPA and FUC criteria for apparatus retirement, Fire Departments should consider:

- The numerous and important safety features and functional improvements built into new apparatus
- As vehicles age, OEM parts become increasingly difficult to source,
- Even with extensive and frequent maintenance programs, corrosion and general wear and tear will eventually create a risk situation for both the public and firefighter safety as well as compromise operational reliability and performance.
- The cost of inspecting, testing, maintaining and documenting annual inspections and performance testing may become excessive.

Pumper 221 has been retained as a back-up unit. It is seldom used, it is close to 25 years old and there are significant maintenance costs. Disposal may be a practical option. Ladder 210 can serve as a first run pumper if Pumper 220 is not available.

Ladder 210 is nearing end of service life (2024). OWFC should anticipate the need to replace this apparatus with another aerial truck in the next 3 – 5 years. A 75' single axle apparatus equipped as a "Quint"[17] may be a cost effective solution to consider.

The interior of Rescue 240 is largely dedicated to the storage and transport of bunker gear. This is a result of a legacy perspective that firefighters may respond directly to the scene to improve response times. This is a perspective that is not in keeping with best practice and current standards designed to ensure operational effectiveness and safety.

Contemporary practice is to respond to the station, dress in the station and then enter the appropriate apparatus fully dressed. This practice is consistent with OFMEM direction that it is preferable to take an extra minute or two to leave the station with a crew and coordinate operations during transit rather than have firefighters arrive independently, perhaps slightly quicker, but not have the equipment, supervision or ability to carry out a safe and effective response. This direction is also reflected in NFPA 1720 4.3.5 **"***Personnel responding to fires and other emergencies shall be organized into company units or response teams and shall have required apparatus and equipment".*

In a volunteer Department, there will likely be a number of firefighters who can respond to the station within 3 minutes, a number who will arrive in 4 – 6 minutes, and those who will respond in the next 7 or more minutes. The first responding firefighters can take a reasonable amount of time (i.e. 3 minutes) to fill the first run apparatus and subsequent responders can fill additional vehicles. Firefighters who arrive after all required vehicles have left the station can take their bunker gear from

[17] A "quint" refers to a fire apparatus that is equipped with a pump, water tank, fire hose, aerial device, and ground ladders

the station and drive to the scene if required. (see section 7.5.5 *Firefighter Response to Station* for further discussion regarding this issue).

OWFC has encouraged the practice of firefighters responding to the station and has provided racks in the apparatus bay for bunker gear storage. The majority of firefighters are now using the racks. This practice should continue to be supported.

As firefighters see the benefits of using the racks for bunker gear storage, it can be anticipated that all firefighters will adopt this practice.

With bunker gear no longer stored on the Rescue 240, there will be additional interior space that can be used for other purposes. The installation of additional seating to transport firefighters is one of several options that can be explored to utilize the space.

Recommendation #17: ***The current practice of storing bunker gear in apparatus bay racks should continue to be encouraged.***

Recommendation # 18: ***A specific OG should be developed regarding response to station and storage of bunker gear. The OG should address exceptions where response to scene is appropriate and where bunker gear is permitted on apparatus (i.e. Chief and Deputy Chief's vehicles)***

7.1.12 Equipment

The Ontario Occupational Health and Safety Act (OHSA) provides that the employer as well as those in a supervisory position have a legal responsibility to ensure that staff are trained and provided with the necessary equipment needed to safely conduct the tasks they are assigned.

Personal Protective Equipment

Structural Firefighting as well as certain emergency responses such as CO calls expose firefighters to life threatening risks. Personal Protective Equipment (PPE) such as bunker gear and self-contained breathing apparatus (SCBA) are essential to the protection of firefighters from hazards. The care and maintenance of structural firefighting personal protective equipment (PPE) is, therefore, of utmost importance.

The requirements for employers to provide firefighters who may be required to perform interior structural fire suppression duties with structural firefighting garments is set out in O. Reg. #714/94: Firefighters - Protective Equipment.

All PPE should be kept clean as soiled or dirty elements may expose firefighters to hazardous chemicals and reduce the effectiveness of the protection it is intended to provide. It is also important that soiled or contaminated PPE not be transported in a personal vehicle, taken into the firefighter's home or into the living quarters of a fire station unless in an approved gear bag or container.

SOP-O-5 Personal Protective Equipment describes the policy and procedures regarding the minimum level of protective clothing to be worn during emergency

operations and training sessions.

An OG is required to address practices and procedures related to the issue, care, maintenance, inspection procedures, inspection frequency, inspection documentation and replacement of personal protective equipment (PPE). This operating guideline should be based on and reference O. Reg. #714/94 71, National Fire Protection Association (NFPA) 1971 "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting" and Section 21 Guidance Notes including:

- 2-7: Reporting Exposures to Biological, Chemical or Physical Agents",
- 4-1: Firefighter Protective Equipment",
- 4-2: Eye Protection",
- 4-6 Firefighter Helmets",
- 4-8: Care, Maintenance, Inspection and Replacement of Structural Firefighting Personal Protective Equipment",
- 4-9: Respiratory Protection Program (SCBA)",
- 4-13 Personal Protection During Fire Investigation Operations", and
- 6-23: Safety during Salvage and Overhaul".

The medical component of SOP-O-5 should be cross referenced to specific and criteria regarding infectious disease and opioid protocols (glove, gown, mask) including donning and doffing procedures.

SOP-O-5 should address the procedure for gear service or repairs including a "tag out" system and process for communications when the equipment is removed from service and when returned to service.

Recommendation #19: SOP-O-5 ***should be amended to reference appropriate OHSA Sec. 21 Guidance Notes and address practices and procedures related to the issue, care, maintenance, inspection procedures, inspection frequency, inspection documentation and replacement of personal protective equipment (PPE).***

Use and Maintenance of Respirators; ***The Respiratory Protection Program***

Firefighters may be exposed to hazardous dust, mist, fumes, gas, vapour and smoke as a condition of their work. To prevent exposure to such hazards, and protect workers when exposure cannot be prevented, it is required to have a Respiratory Protection Program includes operating guidelines.

OWFC has a respiratory program (OG-S-5) based on CSA Standard Z94.4-11 *Selection, Use, and Care of Respirators* to address:

- N-95 & SCBA Fit Testing
- Respirator Training
- SCBA/ Face piece/ Cylinders
  - Requirements and Use

  - Cleaning and Sanitizing
  - Inspection
  - Maintenance and repairs
  - Bench testing/Hydrostatic testing
  - Storage
  - Transportation
  - Refilling/ Air Exchange
  - Air quality
  - Air compressor/Purge Panel operations, maintenance and repairs
- Pass devices inspection and maintenance
- Use of N95 Masks

The Respiratory Program references relevant Section 21 Guidance Notes including Guidance Note #4-9: *Respiratory Protection Program*.

Guidance Note #4-8 *Care, Maintenance, Inspection and Replacement of Structural Firefighting Personal Protective Equipment is* not referenced and should be in the next revision of the program document.

Relevant NFPA Standards including NFPA 1851 *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting* are cited in the Program. NFPA 1971 Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting should be referenced in the next revision of the Program Document.

Breathing Apparatus Log Books should be available at each Station recording the date, time, and use of SCBA use and that each has been inspected and returned to service.

There should be a Maintenance log to document air quality tests, filter replacement tests, repairs and overhauls, and routine scheduled service.

The Respiratory Program should have a specific procedure regarding review and updates as well as require regular review of the program and related OGs.

Permanent workplace records should be kept for all real and suspected exposures to biological, chemical or physical agents and guidelines for exposure reporting that meets the intent of GN 2-7 *Reporting Exposures to Biological, Chemical or Physical Agents*.

Recommendation #20: *OG-S-5, The Respiratory Program, should be amended to include a schedule for review and updates.*

Self Contained Breathing Apparatus

OWFC currently uses Scott SCBA (2,216 psi) equipment which was purchased in 2008. Each firefighter is assigned their own personal facemask.

There have been numerous technical advances in SCBA equipment since 2008. Further, the current SCBA equipment is no longer covered by warranty and maintenance and repair costs for older equipment can be significant. OWFC should continue to monitor costs associated with repair and maintenance of existing SCBA equipment, advances in SCBA technology as well as SCBA purchases by mutual aid partners to determine if the SCBA equipment should be considered for replacement in the near future.

OWFC has a compressor and related equipment to fill SCBA cylinders. This facility may need to be upgraded when new, high-pressure SCBA are purchased.

Other Equipment

OWFC is well equipped with equipment required for the services authorized by the E. & R. By-Law including:

- Extrication and Roof Power Saws
- Hydraulic Extrication Equipment
- Scene Lighting
- Air Bags
- Cribbing
- Hoses & related Appliances
- Thermal Imaging Cameras
- Hand Tools
- Positive Ventilation Fans

Thermal imaging cameras are now being used extensively for scene size-up, ongoing assessment and development of foreground tactics as well as use by interior crews. The number of thermal imaging cameras available should be evaluated with the objective of equipping Command, Safety Officer, Rapid Intervention Team (RIT) and each entry team.

Recommendation #21: ***The need to acquire additional thermal imaging cameras should be evaluated in context of current and future fireground protocols.***

The use of positive pressure fans has become a recognized fire ground tactic to rapidly remove smoke from a content or structure fire and facilitate search and rescue as well as salvage and overhaul procedures. Larger positive pressure fans are beginning to be deployed more frequently particularly where big box stores, warehouses and other large structures are found.

Recommendation #22: ***OWFC should evaluate the effectiveness and capability of the current positive pressure fans in context of current and future requirements.***

7.1.13 Apparatus and Equipment Inspection and Maintenance

For trucks, tractors or trailers, or a combination of these vehicles that have a registered gross vehicle weight of more than 4,500 kilograms, the Ontario Highway Traffic Act (HTA)[18] requires:

- A written schedule to periodically inspect and maintain vehicles.
- Documentation to ensure that inspections and maintenance are carried out in accordance with the written schedule.
- Drivers conduct daily inspections.
- Valid annual or semi-annual inspections on all applicable vehicles are maintained.

For Fire Apparatus, the HTA provides an exemption that pre-trip inspections can be conducted post-trip.

SOP-A-1 addresses annual commercial vehicle inspections. SOP-A-6 addresses Emergency Apparatus Safety Inspections. SOP-A-6 should be reviewed to ensure that specific procedures for pre-trip inspections (non-emergency) and post-trip inspections (emergency response) are stated.

Recommendation #23: ***SOP-A-6 should be reviewed to ensure that specific procedures for pre-trip inspections (non-emergency) and post-trip inspections (emergency response) are stated.***

Documentation is required but not kept in a log book on the Apparatus floor. Having a log book with the record of previous inspections assists in tracking deficiencies and ensures follow-up. Procedure should ensure officer notification of any deficiencies found and formal process for follow-up.

SOP-A-6 specifies monthly inspections however inspections are done on a bi-weekly basis by the FPO.

Monthly inspections are common in volunteer departments as providing a reasonable process when there are relatively few resources and calls. Monthly inspections should augment pre-and post-trip inspections by completing a comprehensive vehicle inspection, inventory of all equipment as well as testing and inspection of all equipment according to the manufacturer's recommendation. This is a time consuming process and will often require 1 to 2 hours for a team of 4 firefighters.

[18] Prescribed Performance Standards for the vehicle are set out in the following *Highway Traffic Act (HTA)*Regulations;

- *HTA* Regulation 199/07 (Commercial Motor Vehicle Inspections).
- *HTA* Regulation 611 (Safety Inspections) Schedule 1 and 2
- *HTA* Regulation 587 (Equipment)

It is advantageous for firefighters to be involved in truck checks as it enables ongoing familiarization and practice in the use of the equipment and enhances knowledge of what equipment is available on what truck and in what compartment.

However, having the inspections done by the FPO has improved the frequency and consistency of truck checks.

Ideally it will be possible to achieve the current benefit of standardized, consistent and more frequent inspections of apparatus and equipment by the FPO as well as involving firefighters in the process.

Apparatus and equipment reporting forms that identify all equipment by compartment should be created and kept in a vehicle specific log available on the apparatus bay. SOP-A-6 should ensure that there is a formal sign off by the supervising officer and formal procedure for notification, remedy and follow –up of deficiencies.

There does not appear to be an OG that specifically addresses the procedures for inspection, cleaning, repairing and replacement of bunker gear. An OG should be created to require monthly checks of personal PPE including bunker gear and SCBA facemasks as per manufacturer's directions. Each firefighter should maintain a prescribed log to document the monthly checks of their assigned PPE. A procedure for notification of defects should also be prescribed.

Recommendation #23: OWFC *should require monthly truck, equipment and PPE inspections as per manufacturer's instructions that includes log book documentation and a procedure for Officer sign-offs and remediation as appropriate.*

7.1.14 Medical Response

OWFC responds to relatively few medical calls as there is an ambulance base station located in Carleton Place. The current 911 protocol results in medical calls first being relayed to the Central Ambulance Coordination Centre (CACC). The CACC will dispatch local Emergency Medical Services (EMS) and, after EMS has been dispatched, will notify fire dispatch as required.

The CACC dispatches fire services in Lanark County according to a prescribed protocol that considers the acuity of the patient and the length of delay anticipated for the ambulance. This protocol requires Fire to attend when the emergency is immediately life threating (i.e. cardiac arrest) *and* there will be an extended delay in EMS response. The end result is that OWFC responds to few medical calls.

Although the number of calls may be infrequent, emergency first responder skills including CPR at the Health Care Provider level, AED and advanced first aid is a requirement for all active duty OWFC firefighters. The rational for this requirement includes the need to:

- Respond to life-threatening medical emergencies such as cardiac arrest when EMS may be delayed.

- Provide assistance to EMS in managing patient care including bleeding control as well as cardiac and pulmonary resuscitation.
- Provide emergency medical response on-scene to assist firefighters as well as the public.

Although not formally required, some firefighters may wish to achieve further training to achieve Red Cross Emergency Medical Responder (EMR) Certification (or equivalent). This training should be encouraged and funded.

Ongoing evaluation of the County Fire Medical Response Protocol Agreement should occur to determine if changes to the EMS delay time criteria should be considered.

7.1.15 Current and Proposed Staffing

Over the past several years, there have been numerous changes in roles, responsibilities and staffing levels as the department has evolved with the changes generally in the Fire Service as well as responding to the population growth and development within the community. In addition, there have been changes in the organization with changes in leadership over the past several years.

Significant recent changes include recruitment of a new Chief.

The 2019 Staffing of OWFC is as follows:

- Chief (F/T)
- Deputy Chief (F/T)
- Fire Prevention Officer (2, F/T)
- Administrative Assistant (1 P/T)
- Captains (5, Volunteer)
- Firefighters (21, Volunteer)

Note: The Firefighter complement includes the Captains and FPO staff who serve as volunteer firefighters after-hours. The term "volunteer" is commonly used to describe non-career firefighters. In the case of OWFC, a more accurate term would be casual part-time".

There is an on-call system in place to ensure that an officer is always available to respond to calls.

A challenge for municipalities with volunteer Fire Departments is meeting response time performance targets during business hours, Monday to Friday. Many people who live in Carleton Place work in Ottawa and are not able to leave work to attend calls.

One tactic to improve work day response is to increase the number of volunteer firefighters. This may increase the probability of firefighters who can respond

particularly if the process is designed to recruit those who are able to respond during the work day.

There are a number of Carleton Place public works employees who serve as Volunteer Firefighters. This is an important tactic to achieve optimal staffing and response times during the work-day and should be encouraged.

Another tactic to achieving improved work-day response is engaging in additional automatic aid agreements with neighbouring municipalities. Such arrangements can be mutually beneficial as neighbouring municipalities face the same challenges with workday staffing.

The recruitment of the full-time personnel who are also willing to serve as firefighter and assist with fire prevention and/or management responsibilities can also assist with achieving optimal staffing and response times during the work-day.

With the continuing growth of the municipality as well as need to improve fire inspection, fire prevention and public education programs, there will be a need for additional Fire Prevention Officers in the future. As noted previously, the recruitment of additional FPO staff can further enhance daytime staffing.

Further, with the increased scope and responsibility associated with the fire prevention, inspection and public education activities, it is recommended that the position of Assistant Chief, Fire Prevention and Public Education be created. In addition to providing fire prevention, inspection and public education leadership and supervision, it is expected that this position will be active as a suppression firefighter and assume FPO duties as required. *(See Section 7.5.1 for Department Organization Recommendations)*

If one of the existing FPO staff are selected for this position, a replacement FPO will need to be recruited. If an external candidate is selected, then the existing FPO complement is expected to be sufficient for the next 3 to 5 years.

The new Provincial regulations requiring public reporting, the need to produce more detailed reporting for senior management and Council as well as the need for better documentation and maintenance of records of inspections, incidents, training and equipment will require the present part-time administrative assistant role to be expanded to a dedicated full-time position.

Recommendation #25: ***With the continuing growth of the municipality as well as need to improve fire inspection, fire prevention and public education programs, the OWFC and Town of Carleton Place should plan for the recruitment of an Assistant Chief, Fire Prevention and Public Education as well as a full-time Administrative Assistant.***

Recommendation # 26: ***Response staffing level targets should be established and monitored to determine if additional firefighters or other strategies are required to achieve required on-scene staffing.***

7.1.16 Current and Proposed Services.

OWFC currently provides fire suppression, public education, fire prevention and emergency response services as follows:

- *fire prevention and education,*
- *structural firefighting,*
- *vehicle firefighting,*
- *MVC extrication*
- *grass and wildland firefighting,*
- *medical assist with defibrillation,*
- *hazardous materials- awareness level,*
- *'Go' Water and ice rescue,*
- *Participation in the County Mutual Aid Program, and automatic aid agreements.*

The Town of Carleton Place Fire Department Establishing and Regulating By-Law (E & R Bylaw 61-2019) has recently been reviewed and updated. Schedule B of the updated By-Law, provides a detailed definition of the services offered by the OWFC which include the current services noted above with the exception that only shore-based water rescue will be provided.

The updated By-law also addresses public education and fire prevention services, emergency planning, and administration and training responsibilities

From a risk management perspective, it is important that the Establishing and Regulating By-Law identify the services the OWFC is authorized to provide. The By-law should also identify which services that the OWFC will not provide and which services will be provided through mutual aid or other agreement.

Examples of services OWFC does not provide include technical rescue services such as hazardous materials, high angle, confined space, heavy urban search & rescue, or trench rescue. These services are required infrequently (occurrence of incidents less than once every 5 years) and require extensive training and specialized equipment. Local or Provincial agreements should be in place to provide these services as required.

Recommendation #27*: That the Establishing and Regulating By-Law identify the services not provided by OWFC and which are provided by others by agreement.*

The recently approved E & R By-law only authorizes shore based water and ice rescue services. Shore Based Rescue permits firefighters to attempt a rescue of a victim with the use of rope throw bags, rescue rings and pike poles without entering the water. Go ice and water rescue means that firefighters enter the water/ice to attempt a rescue. Go ice and water rescue is considered an advanced technical rescue operation requiring specialized knowledge, skills, training and equipment.

The Ocean Wave Fire Company has provided Go water and ice rescue services for over 20 years. Current equipment includes:

- 1 Fortuna Rapid Deployment Craft (over 10 years old, multiple repairs)
- 1 14' flat-bottom skiff (600 lb rated capacity)
- 9 Mustang immersion suits
- 8 life jackets, helmets & ropes

Annual training is provided at 4 hours per year.

During the Master Fire Plan consultation process, firefighters expressed a strong desire to continue the Go ice and water rescue service.

However, Go Ice and water rescue is extremely dangerous. There have been several fatalities where firefighters have lost their lives in Ontario during ice water training. Following a 2010 fatality in Point Edward, the Ontario Fire College put its ice rescue program on hold in 2014 and has yet to replace it with an updated version. A second death occurred during ice rescue training on the Saugeen River near Hanover in 2015.

In 2017 an Ontario Coroner's Jury investigating both deaths recommended placing in abeyance all training exercises for ice/cold water rescue in locations where any current is deemed to be "swift" (above one knot or such other level as may be deemed to constitute "swift" water)[19].

To date, a new curriculum and training standards has not been developed or approved by the Ontario Fire College or the Ontario Fire Marshal's Office.

Private sector training courses remain available and some Fire Departments continue to provide Go water & ice rescue training. However, specific training, certification, qualification and regulation requirements remain at the discretion and responsibility of the Fire Chief when a Fire Department undertakes to provide a Go water & ice rescue service.

Standards that exist that are relevant to water and ice rescue operations include:

- NFPA 1006, Standard for Technical Rescue Personnel Professional Qualifications
- NFPA 1670, Standard on Operations and Training for Technical Search and Rescue Incidents.
- NFPA 1983, Standard on Life Safety Rope and Equipment for Emergency Services.
- ULC S555 for Rope and Technical Rescue Equipment,

19

https://www.mcscs.jus.gov.on.ca/english/Deathinvestigations/Inquests/Verdictsandrecommendations/OCCInquestBruntandKendall2017.html

- Transport Canada requirements for marine vessel operators as applicable (Pleasure Craft Operators Certificate or Small Vessel Operator Proficiency)

Under clause 25(2)(h) of the Ontario Health & Safety Act (OHSA), *the employer is required to take every precaution reasonable in the circumstances for the protection of a worker*. This 'general duty clause' together with other requirements contained in the OHSA creates a requirement that Fire Departments must provide an adequate training program as well as competent supervisors. Providing accredited courses and requiring demonstrated competency according to established standards is a means to demonstrate that reasonable precautions have been undertaken. Failure to do so exposes employers and supervisors to significant liability risk.

The training requirements to enable a Go Ice Water Rescue Program appropriate to the Town of Carleton Place that would enable Firefighters to be certified at the NFPA Operations level would consist of the following components:

- Rope Rescue (Awareness & Operations) - 32 hrs (4 day course)
- Open Water Rescue (Awareness & Operations) - 32 hrs (4 day course)
- Swift Water Rescue (Awareness & Operations) - 32 hrs (4 day course)
- Ice Water Rescue (Awareness & Operations) - 32 hrs (4 day course)

To provide a 7/24/365 level of service, all OWFC firefighters would need to be trained. Thus, OWFC firefighters would need to commit to initial training of 128 hours.

The cost required for one-time training including firefighter compensation, instructors, travel and accommodation expenses would be in excess of $180,000. In addition there would be ongoing training costs in the range of 16 hours per year with an annual cost in the range of $8,000. An annual budget for equipment maintenance and replacement would be in the magnitude of $5,000.

As a single station department with casual part-time firefighters, it is not practical to add on additional training hours to support Go ice and water rescue services. An Automatic Aid protocol with Ottawa Fire or another Lanark County Fire Department should be considered to provide a Go ice and water rescue service.

7.2 Strategic Direction #2: Supporting a Culture of Safety

7.2.1 Building a Culture of Safety

Firefighting and other emergency response presents extraordinary hazards to firefighters as well as the public. Training, routine hall maintenance, truck and equipment checks also present significant hazards. Constant vigilance and adherence to best practice safety procedures are essential to achieving the objective of "Everyone goes home"[20].

We recognize the importance of safety in all we do and recognize that this commitment must be reflected in our culture. It is who we are and what we do!

Today, we recognize that health and safety does not simply refer to physical health. Mental health and particularly the effects of Post Traumatic Stress Disorder (PTSD) are a major concern in the fire service.

The Ontario Occupational Health and Safety Act provides the legislative requirements that employers must follow including the general duty requirement to ensure that *everything reasonable under the circumstances is done to protect the safety of the worker.*

Our commitment to safety extends to the public as well. Section 217.1 of the Canadian Criminal Code has expanded this duty to include any other person as follows: "*Every one who undertakes, or has the authority, to direct how another person does work or performs a task is under a legal duty to take reasonable steps to prevent bodily harm to that person, or* any other person*, arising from that work or task."*

7.2.2 Joint Occupational Health & Safety Committee

The Ocean Wave Fire Company has a Joint Occupational Health and Safety Committee (JOHSC) with 2 management members and 3 firefighter members. Both management members and one firefighter members are certified. The Committee is active and meets four times per year.

The JOHSC should develop a schedule for routine station inspections as well as participate in the development of specific safety related training.

Recommendation # 28: ***The OWFC Joint Occupational Health & Safety Sub-Committee meet at least every 3 months, and the frequency of meetings, number of workers trained, and number of station inspections be reported to Council on a quarterly basis.***

[20] https://www.everyonegoeshome.com/

7.2.3 IMS and Personnel Accountability

OG-O-9 of the OWFC Operating Guidelines provides a guideline regarding implementation of Command procedures including Incident Management and role of the Safety Officer.

A core component of Incident Management is to insure a system of personnel accountability is in place at every incident[21]. A personnel accountability system is required to insure knowledge of the location, task and identity of all on-scene firefighters during emergency operations. A properly functioning personnel accountability system is essential to safe scene operations as it ensures that personnel are acting as directed and efficient rescue can be implemented if required.

OG-O-20 provides the specific procedures for implementation of the OWFC accountability and entry control system. OWFC uses the "In Command" accountability system. This system incorporates a motion detector PASS alarm with wireless communication to allow monitoring of individual firefighter status. Each firefighter is issued a TPASS 3 device and it is the firefighter's responsibility to ensure that this device is maintained in good working order, attached to their PPE and activated each time they wear their turnout gear at an emergency scene or training exercise

At any emergency scene or training exercise the Accountability Officer will activate and take control of the accountability system

7.2.4 Safety During Fire Suppression and Rescue Operations

SOP-O-5 provides direction regarding use of PPE for specific emergency responses.

There does not appear to be a specific OG that provides the procedures for notifying outside agencies such as Ministry of the Environment and CANUTEC. The OG's should be reviewed to ensure that agencies routinely contacted for structure fires such as EMS, natural gas, propane, or hydro are noted as requiring mandatory notice under certain circumstances. Although it can be assumed contact information is available through Smith Falls Dispatch, specific contact information should be available as a back-up.

Recommendation #29: ***The OGs be amended as appropriate to specify mandatory reporting (hydro, natural gas) as well as identify where specific contact information for outside agencies is available.***

By their nature, firefighters will do whatever is required to save lives and property even if they are not specifically trained and equipped to respond safely or authorized. Thus, it is critical to have well understood Operating Guidelines that establish the protocols for obtaining resources to respond promptly to emergencies not authorized by the Municipal E & R By-law.

[21] Guidance Note 5-1, Section 2-6 of NFPA 1561 and Section 6-3 of NFPA 1500

Recommendation #30: ***That written protocols be developed regarding access to specialized technical rescue teams including trench, rope, high angle, confined space, haz-mat, swift water, Go water/ice rescue, CBRN, and HUSAR.***

7.2.5 Firefighter Response to Station

Historically, volunteer Fire Departments were often in rural areas and depended on firefighters who lived on farms and small villages to respond directly to the scene. Firefighters who live near the station responded to the station and drive a truck to the scene. Pumpers in rural areas only needed a two person cab as just one or two firefighters would respond quickly to the station.

This practice was appropriate in the days when the majority of firefighters lived on farms, the response was largely for defensive structure fire operations, and equipment and tactics were based on simply "putting the wet stuff on the hot stuff"

Today's world is vastly different where firefighters are expected to do rescue and interior entry is expected. Safe operations require organized teams under a formal command structure before commencing suppression or rescue activities.

Further, there is increasing awareness of potential hazards of storing potentially contaminated bunker gear in vehicles. As more people who reside in rural Ontario live in or close to villages and hamlets, there is an increased likelihood of firefighters being able to respond directly to the station.

Thus, the recommended practice supported by NFPA and OFMEM standards is that it is preferable to take an extra minute or two to have a fire apparatus leave the station with a crew of four to six firefighters rather than leave with a partially filled truck and have firefighters respond directly to the scene.

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* requires urban areas such as Carleton Place, to have 15 staff with a response time of 9 minutes, 90 percent of the time. Section 4.3.4 states "Upon assembling the necessary resources at the emergency scene, the Fire Department shall have the capability to safely commence an initial attack within 2 minutes 90 percent of the time." Section 4.3.5 of the standard states "Personnel responding to fires and other emergencies shall be organized into company units or response teams and shall have required apparatus and equipment."

The Ontario Fire Marshal Fire Ground Effectiveness Sub-Model [22] states:

22

http://www.mcscs.jus.gov.on.ca/english/FireMarshal/FireServiceResources/ComprehensiveFireSafetyEffectivenessModel/FireGroundEffectivenessSub-Model/AssemblingFireAttackTeams/assemble_fire_attack_teams.html
Assembling Fire Attack Teams

- "To provide effective, efficient and safe fire protection services, the delivery system chosen must ensure a virtually simultaneous arrival of a minimum of four fire fighters".
- "The OFMEM recommends, where practical, a minimum of four persons be dispatched on the initial apparatus".
- "A total complement of no less than ten fire fighters, including supervisor(s), and, if possible, a minimum of two vehicles one of which is a triple combination pumper, must assemble at the fire ground".
- "It may be preferable to dispatch fewer vehicles with more fire fighters rather than the vice versa".

Section 7.1.11 addressed specific recommendations regarding storage of bunker gear and response to station.

7.2.6 Safety During Salvage, Overhaul and Fire Cause and Origin Investigations.

Although OG-O-13 provides some direction regarding PPE for salvage and overhaul operations, these directions should be reviewed to ensure compliance with relevant standards including Section 21 Guidance Note 6-23 'Safety practices during Salvage and Overhaul' and Guidance Note 4-13 'Personal Protection During Fire Investigation Operations'.

7.2.7 Safety Officer

OWFC –O-9 addresses the role and deployment criteria for a Safety Officer. This OG should be reviewed to ensure NFPA 1521 'Standard for Fire Department Safety Officer' and Guidance Note 2-4 'Incident Safety Officer' are adequately reflected. It may be appropriate to identify a specific OG regarding the role of Safety Officer

It is recommended that an OWFC Officer(s) be identified to take specific training to be certified as a Safety Officer to provide ongoing leadership regarding the role of Safety Officer.

Recommendation # 31. ***OWFC –O-9 be revised to ensure NFPA 1521 'Standard for Fire Department Safety Officer' and Guidance Note 2-4 'Incident Safety Officer' are adequately reflected.***

7.2.8 Incorporating Safety in Training Lesson Plans

Safety has to be an integral component of all training. Formal Lesson/Training Plans need to be in place that includes specific safety procedures including designation of a safety officer. Training/lesson plans need to be approved by the Chief. Contracted out training also requires formal lesson plans with designated qualified instructors approved by the Chief.

Recommendation # 32: ***An OG needs to be developed/amended to require Lesson/Training Plans, approved by the Chief, to be in place that include specific safety procedures including incorporating a safety officer.***

7.2.9 Mental Health and Post Traumatic Stress Disorder

First Responders are required to manage situations involving death and serious injuries. The result can be Post-Traumatic Stress Disorder (PTSD), a mental health condition that is caused by witnessing or experiencing actual or threatened death, serious injury or violence. Someone with PTSD can experience nightmares, uncontrollable memories, persistent fear and severe anxiety. PTSD can lead to depression, work and marital difficulties, and suicide

The Province has recognized the impact of PTSD on First Responders and has implemented the Supporting Ontario's First Responders Act. PTSD diagnosis for first responders and certain workers such as correctional officers, youth service workers, and emergency dispatchers is now presumed to be work-related – they no longer need to prove it to access WSIB benefits and resources.

The Act also requires employers of workers covered by this presumption to develop PTSD prevention plans and provide information about their plans to prevent PTSD in their workplaces.

A toolkit is available to help employers prepare their PTSD prevention plans and programs[23] and OWFC has developed a PTSD Prevention Plan as required by the Ontario Supporting Ontario's First Responders Act.

An OG has been developed/amended to outline a PTSD Prevention Plan as required by the Ontario Supporting Ontario's First Responders Act.

7.2.10 Issues for Further Investigation

There are a number of occupational health and safety issues which should be monitored to determine the need for change in procedures or policy. These issues include:

- *Fall restraint requirements* i.e. loading hose on top of pumpers/tankers,
- *CO removal in stations* – Is ventilation and automatic detection adequate? Should direct exhaust systems be considered?
- *Decontamination at scene and post-fire bunker gear management*. There is growing evidence of skin contamination through bunker gear and need for on-scene as well as in-station decontamination. Current procedures need to be reviewed on an annual basis as the science is evolving. The need for on-site decontamination, post-incident showers, bunker gear cleaning procedures and other protection strategies needs to be evaluated on an annual basis or as further knowledge/directives require.

Recommendation # 33: ***Health and safety issues, policies and practices be continually monitored and reviewed including review and circulation of OFMEM communication and encouraging senior officers to attend the annual Ontario Association of Fire Chiefs Health & Safety Conference.***

[23] https://www.ontario.ca/page/post-traumatic-stress-disorder-prevention-plans

7.3 Strategic Direction #3: Accountability

7.3.1 Linking Mission, Vision, and Strategy to Results

Great organizations understand their purpose (mission) and desired future (vision). They understand that achieving their vision is dependent on having a clear strategy to move forward from the present to a desired future state. And they understand that they are accountable for their actions and deliverables in achieving the strategy.

The concept of accountability is particularly relevant in the public sector where funding is predominantly provided by the taxpayer. Excellence in the public sector can be defined as the concept of delivering the best possible service within the resources allocated and providing evidence that this objective is being accomplished.

Many organizations have adopted the "Balanced Scorecard"[24] as a tool to translate long-term strategy in day-to-day management through the mechanism of measurement. The Balanced Scorecard translates vision and strategy into a tool that effectively communicates strategic intent and motivates and tracks performance against tactical objectives.

Typically, organizations report on financial and activity indicators. The paradigm shift created by the Balanced Scorecard was to look at the entire organization described as four dimensions:

- *Financial Perspective* – How do we look to our funders?
- *Customer Perspective* – How do our customers see us?
- *Internal Business Perspective* – What must we excel at?
- *Innovation and Learning Perspective* – How do we continue to improve?

Within each dimension, reporting addresses relevant objectives, measurements, targets and initiatives that flow from the Strategic Directions.

The Ocean Wave Fire Company provides monthly reporting to Council that documents the number of calls by major type. It is recommended that a more comprehensive report be designed with quarterly rather than monthly reporting. Reporting quarterly will provide a better perspective of trends and will balance the workload associated with a more detailed report with one that is produced less frequently.

It is also recommended that an annual report be produced that provides a comprehensive overview of the previous year as well as key priorities for the next year.

[24] Kaplan, R.S. and Norton, D.P, the Balanced Scorecard, Measures that Drive Performance. Harvard Business Review, 1995.

Suggested measures include:

Financial:	- Quarterly actuals vs budget and forecast - Capital expenditures actual vs budget and forecast
Customer Performance:	- Types and frequency of calls - Response times - Public Education events vs target - Fire Inspections vs target - % of structure fires with fire investigation completed - Pre-plans completed vs target
Internal Processes	- % calls with Accountability System in place - % structure fires with RIT Team established - Calls with formal debrief - Number of building permits/plans reviewed - Department recruitment and attrition - Number of exit interviews completed
Growth & Development:	- YTD training hours actual vs target - Number of firefighters/officers achieving certification - Number of SOGs and policies reviewed/developed

Recommendation # 34: ***That the Ocean Wave Fire Company develop and implement quarterly reporting based on the Balanced Scorecard accountability framework.***

It is important to note that measuring performance is a sizable task. It requires ongoing effort to develop and update annual objectives, develop the performance metrics, record activities and create and maintain reports.

The FirePro© system utilized by OWFC will continue to be of great value in the collection, recording, and analysis of data. Significant support, however, from the leadership team as well as financial and staff resources, will be required to develop comprehensive quarterly reporting (see Recommendation # 50).

In addition to reporting performance metrics, quarterly reporting will also allow Council to be apprised by the Chief of changes in legislative obligations, training requirements, best practices, and incidents of concern or other pertinent matters.

Through comprehensive and structured reporting, Council will be sufficiently informed so as to satisfy itself that the fire protection services being provided to the community are adequate and effective and that the OWFC is meeting required standards.

7.3.2 Mandatory Public Reporting

Ontario Regulation 377/18 under the Fire Protection and Prevention Act, required Fire Departments to provide a public report to the Municipal Council and the Fire Marshal effective January 1, 2020. It is apparent at the time this report was written that the regulation will not be put into force.

This Regulation provided separate reporting requirements for Volunteer and Career Departments. For Volunteer Departments such as OWFC, the public report required would have required reporting the time interval value that the Fire Department achieves or exceeds 90% of the time as set out in Table 11:

Table 11: Ont. Reg. 377/18 Public Reporting Requirements for Volunteer Fire Departments[25]

Alarm transfer time: Time from the receipt of the alarm at the Public safety Answering Point (PSAP) until the alarm is received at the fire department communication centre
Alarm answering time: The time from when the alarm is received at the fire department communication centre and ends when the alarm is acknowledged at the communication centre
Alarm processing time: The time interval from when the alarm is acknowledged at the fire department communication centre until response information is transmitted to fire department
Alarm handling time: The time interval from the receipt of the alarm at the PSAP until the beginning of the transmittal of the response information to fire department
Turnout time: The time interval that begins when the fire department notification process begins and ends at the beginning point of travel time
Travel time: The time interval that begins when a fire department unit is en route to the incident and ends when the fire department unit arrives at the scene
Initiating action/intervention time: The time interval from when a fire department unit arrives on the scene to the initiation of emergency mitigation
Total response time: The time interval from the receipt of the alarm at the PSAP to when the first fire department unit is initiating action to control the incident

Note: The public report does not have to set out information for items 1, 2, 3, 4 and 8 if the information is not available from the fire department's records.

Although it is apparent that the Regulation will be revoked, public reporting of the information required by the regulation will better inform Council and the public and will serve to improve Fire Department performance.

Recommendation # 35: ***That the Ocean Wave Fire Company develop and implement an annual public report that provides an overview of Department activity and fulfills the requirements of ONT. REG. 377/18 Ont. Reg. 377/18 Public Reporting Requirements for Volunteer Fire Departments.***

[25] At the time this report was written, notice from the Minister had been given that this regulation will be revoked.

7.4 Strategic Direction #4: Supporting Service Excellence and Innovation

7.4.1 The Learning Organization

Over time, many organizations lose their capacity to learn, change and adapt as structures and processes are established. When problems arise, the solutions are often short-term based on previous practice, and problems continue to re-emerge.

Expectations, methods of service delivery and technology, however, are constantly evolving. Organizations need to develop knowledge about new technologies and processes, understand what is happening in the outside environment and facilitate creative solutions using the knowledge and skills of all within the organization. This requires co-operation, communication, and a culture of trust. It requires a fundamental attitude change that effort and energy must be dedicated to a constant review of how one does work and always asks the question: *Is there a better way*?

This concept has been reflected in the concept of a **learning organization**[26] which can be defined as one which facilitates the learning of its members and continuously transforms itself to best serve the customer. This process of supporting transformation is synonymous with supporting innovation.

OWFC has in place many of the core attributes of a Learning Organization. There is a serious commitment to learning. Comprehensive operating guidelines (OGs) have been developed and there are many examples of best practice that have been adopted.

To support innovation and assist in the continued development as a Learning Organization, the following recommendations are proposed:

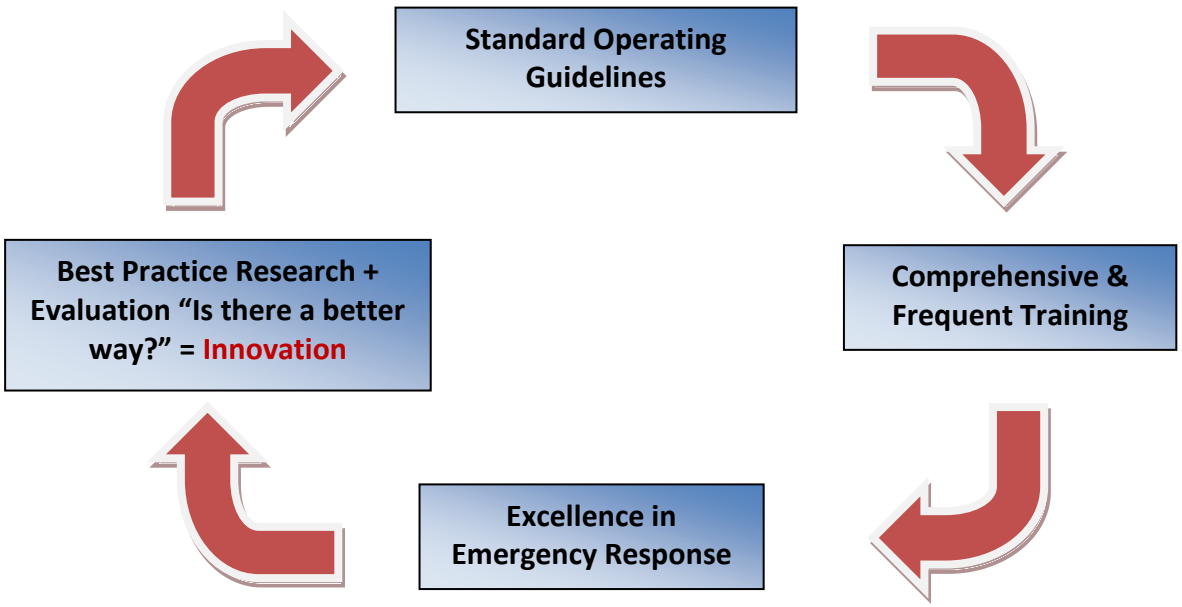
Recommendation # 36: ***That the review and updating of Operating Guidelines (OG's) continue with a specific target performance metric regarding number to be developed, reviewed and updated be identified as part of the OWFC annual objectives and be monitored in the quarterly report.***

The review of OG's should build on and reference peer group 'best practices', current and emerging concepts from the professional literature, OFMEM directives and communiqués, and Sec. 21 Guidance Notes. The time required to undertake such a review should not be underestimated. Workload, however, can be shared with others who share a common dedication to achieving excellence.

The above recommendation is intended to support the relationship between best practice, OGs, training, and performance. This relationship can be thought of as an interdependent linkage where best practice and ongoing evaluation informs OGs. OGs are the foundation for training, and training is the critical foundation for achieving excellence in efficient and effective performance in managing an emergency situation.

[26] Senge, P. M. (1990) *The Fifth Discipline. The art and practice of the learning organization*, London: Random House.

Figure 13: Relationship between Inquiry, Operating Guidelines, Training and Operational Excellence



7.4.2 Training Delivery

Quality training delivery is essential to build competency and teamwork to enable suppression and rescue operations to be effected efficiently and safely. Instructors must be competent and there needs to be sufficient time and frequency of training to build and maintain skills.

Effective training is a requirement under the *Ontario Occupational Health and Safety Act* (OHSA). The Act prescribes that the Employer (Municipality) must ensure all members of their fire department are trained and equipped to provide the services delivered.

Section 21 of the OHSA provides that the Minister may appoint committees to provide specific advice and guidelines. Under this authority, an Ontario Fire Service Advisory Committee exists with the responsibility to advise and make recommendations on matters relating to the occupational health and safety of all firefighters in the Province of Ontario.

The Committee is also responsible for the development of a manual of Health and Safety Guidance Notes for fire services in Ontario. The manual provides policies and procedures that are recommended to be used by workers in the fire service to prevent injury or illness, and will comply with the intent and provisions outlined in the Act.

To ensure due diligence with respect to fulfilling the requirements of the OHSA, each training session should have a comprehensive lesson plan developed in compliance with NFPA 1041 Standard for Fire Service Professional Qualifications. All training lesson plans should be developed with specific reference to the applicable Section 21 Guidance Notes.

Examples of specific Guidance Notes that should be referenced in the Training OGs include, GN 7-1 Health and Safety during Practical Training Sessions and GN 7-2 Training Requirements.

The Chief or designated senior officer should approve and sign-off on all lesson plans.

The training program curriculum and specific content should be based on NFPA 1410 Standard on Training for Emergency Scene Operations. The training curriculum should be reviewed and published annually including a reference calendar

Training is a key factor in maintaining the morale and *esprit de corps* of the firefighters. Effective training needs to not only enable skill development and protect worker safety, effective training requires that the program delivery should be engaging, enjoyable and embraces the best practice principles of adult education.

Training should include external training opportunities at regional centres such as Lyndhurst or the Ontario Fire College as well as regular in-house training.

A program of professional development should be in place for each firefighter to plan for individual advancement in areas such as technical rescue, officer development, training, fire inspection, fire prevention and public education, fire cause determination or medical training.

Lesson plans, training safety plans and training records are documented in Section 7 of the OWFC Operating Guidelines. There are specific Operating Guidelines for records, safety in training, driver training, health & safety training and minimum attendance for training & fire calls.

Recommendation # 37: ***The OWFC Training Operating Guidelines be reviewed to ensure that there is a clear requirement for:***

- ***Formal lesson plans to be developed in compliance with NFPA 1041 and approved by the Chief.***
- ***All training lesson plans reference applicable Section 21 Guidance Notes.***
- ***The training program curriculum and specific content should be based on NFPA 1410 Standard on Training for Emergency Scene Operations. The training curriculum should be reviewed and published annually including a reference calendar.***

Every call provides a training opportunity. An opportunity for a 'debrief' after calls should be encouraged to reflect on what went well and 'lessons learned'. This 'debrief' should be a formal component of a Post Traumatic Stress Management Program to assist in early identification of a need for potential further interventions.

Recommendation # 38: ***A process for debriefs after calls and related documentation process to identify issues, questions and 'lessons learned' should be encouraged with a formal OG.***

A challenge for Fire Departments that rely on volunteer firefighters is the ability to find time to provide sufficient training hours to maintain core competencies in fire suppression as well as auto extrication, medical response, officer development, pump operations, and water rescue. Upwards of 100- 120 hours is required annually to accomplish the objective of maintaining core competencies. Development of additional technical or professional competencies will add many more hours.

Recommendation # 39: ***To maintain core competencies, the training curriculum and calendar needs to reflect a commitment of 100 to 120 training hours per annum.***

7.4.3 Documentation, Communication and Records Management

Participation in training activities as well as specific demonstration of required knowledge and competency needs to be documented with records kept organized, secure and readily accessible by authorized personnel. Comprehensive documentation is essential to the evaluation of individual performance and learning requirements as well as demonstrating that the employer has taken all reasonable actions required should litigation arise.

The requirement for training records is prescribed in OG –T-1 and SOP-A-5. This OG should be reviewed to ensure compliance with GN 7-3 Documentation of Training.

Minimum attendance for training & fire calls is prescribed in OG#7005.

There should be prescribed processes in place for sharing of workplace communication and information such as Fire Marshal Directives and Communiqués, and new or revised fire service operating guidelines and notices.

7.4.4 Training Leadership

The lead for training is the Deputy Chief.

The workload associated with developing and delivering a comprehensive training program far exceeds the capability of a single person. It is suggested that the Deputy Chief continue to assume leadership for the training program including curriculum requirements and schedule, external liaison in supporting initiatives such as the joint recruit training program, and direction of lesson plan requirements and presentation formats.

Actual preparation of lessons and training delivery should be delegated to the greatest extent possible. Subject matter experts or teams should be identified to develop lesson plans and deliver common training to each station to ensure a consistent interpretation of the OGs. This concept has the potential to considerably improve morale and learning by involving officers and firefighters directly in the learning process. *Learn, Do, Teach*!

The subject matter experts can most likely be found within the OWFC. In some cases, it may be appropriate to contract with another department or individual to provide the required expertise.

Recommendation #40: ***Subject matter experts/teams be identified and supported to assist in the review and development of OGs, lesson plans, and to deliver common training to each station to ensure a consistent interpretation of OGs.***

7.4.5 Transition to NFPA Standards and Certification

A key challenge for the Fire Service in Ontario is the transition from training standards, program development and delivery previously led by the Ontario Fire College and Office of the Fire Marshal to a program based on NFPA standards and certification. Examples of current certifications include:

- NFPA 1001 Firefighter Level I and II.
- NFPA 1021 Company Officer
- NFPA 1041 Fire Service Instructor
- NFPA 1031 Fire Inspector,
- NFPA 1035 Fire & Life Safety Educator

Currently there is no mandatory certification required by statute for firefighters. In May, 2018, the Ontario Government announced new regulations under the *Fire Protection and Prevention Act* which mandated certification of firefighters, fire inspectors and dispatchers. The Regulations were created after recommendations from three coroners inquests and years of pressure to increase safety standards.

However, in October, 2018, the new provincial government rescinded the requirement for mandatory certification.

Although there is no longer a legal requirement for mandatory certification, OWFC, like many progressive Fire Departments in Ontario, has already initiated mandatory certification for all new recruits and is committed to an ongoing program such that all firefighters and officers are certified.

7.4.6 Advanced Training

NFPA 1001 provides the Standard for Firefighter Professional Qualifications. This Standard identifies the criteria for firefighter qualification at the Entrance, Firefighter I and Firefighter II levels

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NFPA Standard 1670, Standard on Operations and Training for Technical Search and Rescue Incidents describes three levels of competency for technical rescue:

- *Awareness Level* This level represents the minimum capability of organizations that provide response to technical search and rescue incidents.
- *Operations Level* This level represents the capability of organizations to respond to technical search and rescue incidents and to identify hazards, use equipment, and apply limited techniques specified in this standard to support and participate in technical search and rescue incidents.
- *Technician Level* This level represents the capability of organizations to respond to technical search and rescue incidents and to identify hazards, use equipment, and apply advanced techniques specified in this standard necessary to coordinate, perform, and supervise technical search and rescue incidents.

NFPA 1021 provides the Standard for Fire Officer Professional Qualifications.

As part of a comprehensive Training Program, ongoing professional development should be encouraged. Upon completion of Firefighter I and II, firefighters should be encouraged to undertake awareness level training relevant to the risk assessment profile. This will assist OWFC in providing an "All Hazards" approach where the OWFC can safely and competently respond to a variety of potential incidents, take initial steps to ensure scene safety, and for incidents requiring specialized resources, assist responding departments.

For firefighters who wish to continue to advance, an individualized program should be developed that match's personal interest with OWFC requirements.

For specialized rescue operations as permitted by the E. & R. By-Law, upon completion of awareness level courses, Firefighters should be encouraged to seek additional training and certification at the operations and technician level.

Firefighters who wish to advance in other areas such as Company Officer, Trainer/Facilitator, Public Education, Fire Inspection and Prevention, Safety Officer or Fire Investigation should be encouraged to do so.

7.4.7 Fire Training Collaboration

Although the Province has indicated that NFPA certification will no longer be mandatory, there is no indication that there will be funding that was once available for Ontario Fire College programs. Thus, it appears that Fire Departments in Ontario are on their own in terms of designating required standards, developing and implementing training curriculum and securing the required funding.

All Ontario Fire Departments have this challenge; however, the larger departments have the staff and financial resources to adapt existing training protocols to meet the NFPA standards. Smaller departments will find this task daunting and will need to consider partnerships and other methods to meet this challenge with available resources.

Not having training programs in place that are based on recognized standards and not providing documentation that recognized competencies are achieved leaves Fire Departments in a precarious position from a risk management and safety perspective.

The general duty clause in the Ontario Occupational Health and Safety Act section 25(2) (h) provides *"that an employer shall take every precaution reasonable in the circumstances for the protection of a worker".* The definition of "*reasonable precaution*" is often based on generally accepted standards.

While the Province has chosen not to make the NFPA standards mandatory, the general adoption of NFPA standards by peer Fire Departments, may in effect, establishes NFPA standards as the definition of a "*reasonable standard*".

For small, rural Fire Departments, collaborative efforts whereby resources are pooled amongst geographically proximate departments can enable common curriculum, lesson plans and training to be implemented in a cost effective manner to achieve certification over time.

OWFC together with other Lanark County Fire Departments have already implemented this strategy in training new recruits. New recruits undertake joint training based on the International Fire Service Training Association '**Essentials of Fire Fighting'** with 70 hrs of in-class, practical lessons and scenarios as well as 70 plus hours of at-home learning. Recruits graduate with NFPA 1001 Firefighter I certification following the required tests.

Other joint training initiatives should be encouraged.

Recommendation #41: ***Ocean Wave Fire Company continues to support regional training initiatives including the joint recruit program.***

7.4.8 Fire Training Centre

To safely and effectively train for interior search and rescue as well as suppression activities, a properly engineered facility that can replicate a smoke filled environment is required. Larger departments have such facilities and other dedicated facilities have been developed for regional use by smaller and rural departments. There are other training centres in Ontario that are fulfilling a regional mandate.

For example, the Meaford Firefighting Training Centre serves as a regional training centre for the Ontario Fire College and offers accredited courses to volunteer and full-time Fire Departments and other emergency service organizations. The Eastern Ontario Emergency Training Academy based in Norwood provides a similar role in the Peterborough, Northumberland, Hastings, Prince Edward Counties and the cities of Kawartha Lakes region. The Training Centre in Lyndhurst provides a regional resource to the County of Leeds and Grenville Fire Departments. Development of a regional centre for the County of Russell and Prescott Fire Departments is under consideration.

There are no specialized training facilities available in Lanark County. OWFC has used the training facilities in Lyndhurst and the Ontario Fire College in Gravenhurst. Lyndhurst is approximately 80 kms distant and has no overnight facilities nearby. Gravenhurst is over 340 kms distance. Ottawa does have a comprehensive training facility; however, it is fully booked for internal use.

Thus, OWFC and the other Lanark County Fire Departments do not have a readily accessible specialized training facility available for routine use.

It is a high priority of OWFC to develop a dedicated training facility on the lands that are available within the Town.

Discussions with other Lanark County Fire Departments should occur to see if mutual investment and development is possible. The Municipality of Mississippi Mills has expressed interest in developing a regional training centre.

Shared financial investment in capital costs as well as sharing resources such as instructors and other forms of collaboration would be ideal. However, such discussions should not impede efforts to develop a proposal to construct an OWFC training facility that can serve the needs of OWFC and be complementary to whatever regional initiatives evolve.

Recommendation # 42: ***That a Business Case Proposal be developed and presented to Council to propose construction of a dedicated fire training facility.***

7.4.9 Medical Training

NFPA 1001 requires that firefighters have as a standard of entry, minimum emergency medical skills including infection control, CPR, bleeding control and shock management.

In Ontario, Fire Departments generally require additional first responder certification including bleeding control, oral airway, nasal airway, supplemental oxygen administration, suctioning, CPR, use of an automated external defibrillator (AED), manual stabilization of fractures, and assisting in the administration of basic medications such as epinephrine auto-injectors, oral glucose, and inhalers. Naloxone administration has recently been authorized. As well, Ontario firefighters are often trained in packaging, moving and transporting patients. This level of training is supported by OWFC although only basic first aid and CPR is mandatory (SOP-T-1).

Recommendation #43: ***That Ocean Wave Fire Company continues to encourage and support Emergency Medical Responder or equivalent certification for all firefighters.***

As OWFC responds to few medical calls annually, it is a challenge to maintain medical response competency unless dedicated time is made available to train and run scenarios. This is particularly challenging with limited training hours per month that need to cover structural firefighting, auto extrication and other requirements.

Not all firefighters will be able or willing to devote extra time for ongoing medical training, however, it is likely that a number will wish to further develop and maintain their medical skills. Thus, to enhance medical and other firefighter competencies for those firefighters who wish to advance and maintain competency as NFPA Firefighter II, it is recommended that an additional optional monthly training session be implemented.

Recommendation #44: ***An optional monthly training night be considered to enhance medical and other firefighter competencies for those firefighters who wish to advance and maintain a high level of competency.***

7.4.10 Enhanced Training for Mass Casualty Events

Mass casualty events, fortunately, are not a frequent occurrence. Nonetheless, mass casualty events do occur. And, should such an event occur in or nearby Carleton Place, OWFC will likely be one of the first responders and will be expected to play a key role to play in the immediate management of the incident.

Recommendation # 45: ***That an OG and Training Program be developed and implemented for on-scene initial management of mass casualty events such as school bus rollovers, tornadoes, long-term care facility fires, and multi-vehicle accidents.***

7.5 Strategic Direction #5 – Effective Leadership and Strategic Management

7.5.1 Current Department Organization

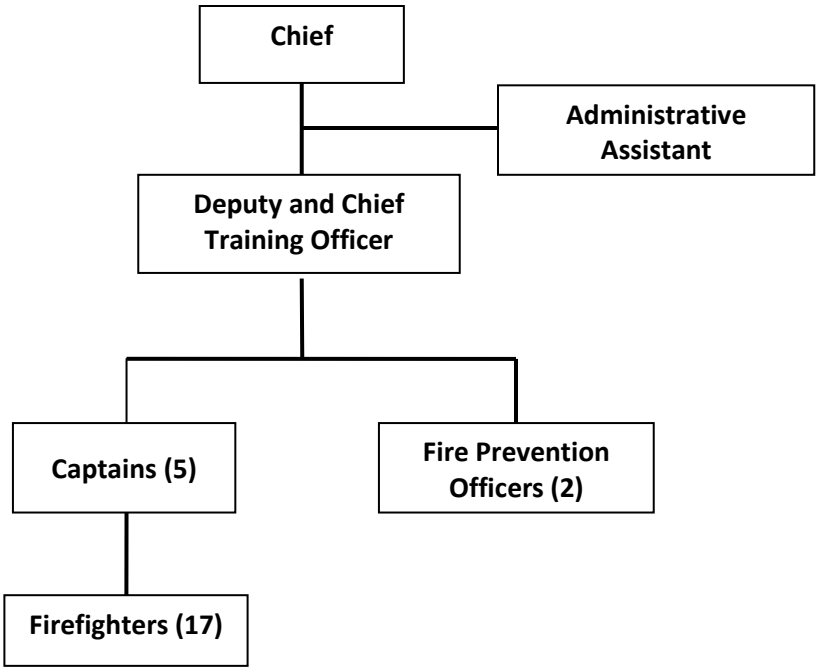
OWFC has evolved with changes in roles and responsibilities from a department that that was primarily concerned about suppression to one that reflects fire prevention and public education as core responsibilities. The other major change driver that has been recognized with the recruitment of a full-time deputy is the increased importance of achieving professional competency through a rigourous training program.

The 2019 OWFC staff compliment is:

- Chief (1) - Full-Time
- Deputy Chief (1) - Full-Time
- Administrative Assistant (1) – Part-Time
- Fire Prevention Officers (2) - Full-Time
- Captains (5) - Volunteer
- Firefighters (17) - Volunteer

The 2019 organization chart is presented in Figure 14:

Figure 14: Ocean Wave Fire Company Organization Chart



7.5.2 Future Organization and Staffing

To meet current and future requirements for an effective fire prevention and public education program, there is a clear need to augment current staffing in this division. Specifically, it is recommended that dedicated public education and fire prevention leadership be established by adding a position of Assistant Deputy Chief. Further, to support his work as well as ongoing OG development, training, and documentation, it is recommended that the Administrative Assistant position be made full-time.

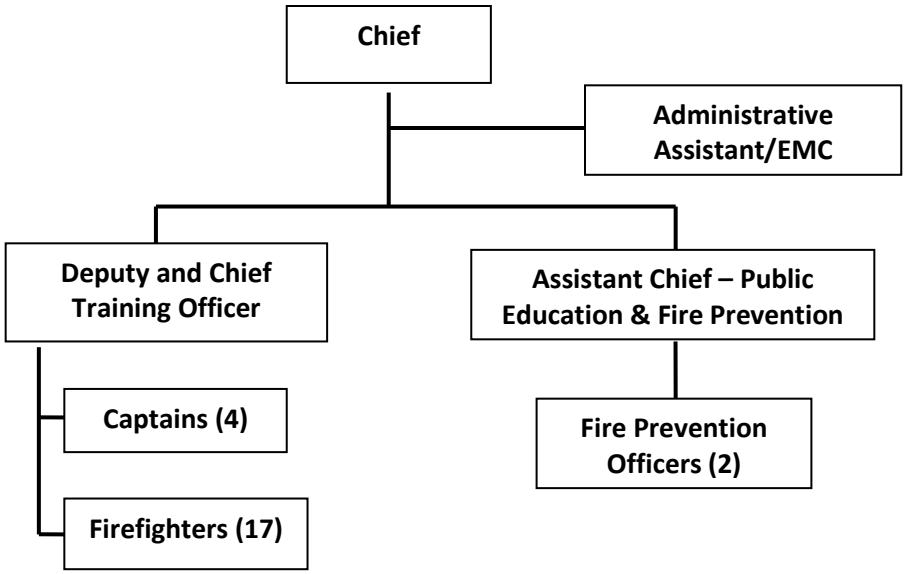
Section 7.1.15 recommended a staffing increase of 1 full time Fire Prevention Officer/Part-time Firefighter (FPO) and increase in hours for the Administrative Assistant from half time to full time.

With the recruitment of an additional FPO, it will be appropriate to consider a supervisory level role for the fire prevention and public education role. Therefore, it is recommended that a new position of Assistant Deputy Chief, Fire Prevention and Public Education be established. It is anticipated that this position will be filled through an internal competition and will not require an additional increase beyond the recommended FPO hire.

Recommendation #46: ***That a full-time Assistant Chief position be established to provide leadership to the Fire Prevention, Inspection and Public Education Division.***

In addition to managing the Fire Department, the Fire Chief is responsible for the Town of Carleton Place Emergency Management Program. It is anticipated that the full time Administrative Assistant will assume the role of Emergency Management Coordinator (EMC) for the Town to support the Chief's responsibility in this regard.

Figure 15: Proposed Ocean Wave Fire Company Organization Chart



7.5.3 Organization Culture

OWFC has undergone significant cultural change in the past several years with a change in leadership both within the Company and Town. There have been practices and traditions in the past that were reflective of an autonomous fire company, not a department of the municipality. As a result, many firefighters have expressed a loss associated with diminished self-governance, no longer being directly involved in certain decision-making activities such as selection of new recruits.

This sense of loss due to the transition from an autonomous, self-governing volunteer organization to a formal department of the municipality with paid full-time and part-time staff is not uncommon and has occurred in many Ontario volunteer Fire Departments.

Change is slowly being accepted and there have been positive developments such as the firefighters finding an offsite social gathering venue.

Today, many organizations recognize the value of maintaining a formal structure and hierarchy yet developing parallel processes to encourage decentralized decision, making and active employee engagement. Creating a culture that supports teamwork, encourages participation and nurtures innovation are common features of high performing organizations.

As the organization continues to stabilize and develop, the following questions can be useful in guiding day to day management processes:

- Are we promoting an organizational culture that develops effective leadership now and for the future?
- Are we supporting clear accountability?
- Are we enhancing the power of the team?
- Are we encouraging and facilitating continuous quality and improvement initiatives?
- Are the contributions of each member respected and valued?
- Do we support the integration of various perspectives in decision making and processes for the successful completion of tasks?
- Do we build on individual and group strengths to create an environment that reinforces dedication to delivering professional and customer-oriented services?
- Do we support a positive environment that welcomes diversity of members, facilitates retention and recruitment and encourages pride in being a firefighter and in being a member of the Ocean Wave Fire Company?

Specific tactics that can be considered to accomplish a more engaged and motivated team include:

- Formal committee structure that involves firefighters in management and decision making. Potential committees could include; Apparatus & Equipment, Training, and Public Education and Fire Prevention.

- Annual performance reviews for all staff that maps out career aspirations and education opportunities.
- Extensive communication and information sharing.
- Encouraging participation in conferences and other general education opportunities.

7.5.4 Human Resources Practices and Procedures

The historic evolution of volunteer Fire Departments in Ontario is that they have often been more of a self-governing 'club' and operated at arms-length from the host municipality. Today, the term 'volunteer' continues to exist; however, the relationship of the firefighter and officers to the municipality is more accurately described as an employer/employee relationship with volunteer firefighters effectively being part-time employees.

Thus, it is important that the Municipality's human resource policies and procedures are understood and followed.

In recent years, OWFC has actively promoted and followed the corporate human resource policies and procedures. Officers and firefighters are hired and promoted in accordance with the relevant policies and the municipal procedure for managing payroll has recently been adopted.

Position Descriptions are in place. The requirement for performance reviews is understood and will be undertaken as a priority. Harassment and workplace violence policies and procedures are in place.

Recommendation # 47: ***Awareness of the Municipal Human Resource Policies and Procedures should be encouraged and access to the Policies and Procedures by hard copy or intranet should be available to all firefighters.***

7.5.5 Retention and Recruitment

Retention and recruitment of Fire Department volunteers is becoming increasing difficult. This is not simply a local issue; it is national and international in scope. Today, the expectation is that the volunteer firefighter will have the same level of training and competencies as a career firefighter. Further, the breadth and depth of training and response capability has grown significantly.

Society has changed as well. Fewer people in rural areas live and work in the same community, thus daytime response can be a serious issue. Work and family pressures make it a challenge to undertake the intense training required as well as to respond to calls.

Volunteer Fire Departments have, in the past, been able to be relatively passive regarding recruitment and retention. There were always eager candidates anxious to join and many stayed on the department for 30+ years.

Although it is apparent that OWFC does not have a retention or recruitment issue, the overall trend that it's becoming increasingly difficult to recruit and retain should be recognized. Today's volunteer and career firefighters have to commit significant time to develop advanced skills, respond to a wide variety of incidents at all hours and participate in fire inspection, pre-planning and public education. Firefighters need to be respected, valued and supported.

On the fireground, it is understood and expected that "command and control" is the *modus operandi*. However, extending "command and control" as the core management style outside of incident management can be an issue in terms of motivating staff and supporting recruitment and retention efforts.

One of the methods to promote retention and recruitment is to ensure that firefighters and officers are respected, valued and supported by continually evaluating performance in the context of: "*Do our policies, procedures, activities, actions and decisions support a positive culture that supports innovation, continuous improvement and assists us in recruiting and retaining staff"?*

More specific questions that can be asked to evaluate efforts to support recruitment and retention include:

- *Do we have training programs that are informative, well presented, engaging and relevant? Lecture style PowerPoint presentations generally are not as helpful as a participative conversation. Hands-on doing is generally preferable to classroom teaching.*
- *Do we have fun when training or is there a culture of fear & intimidation where people are afraid to show initiative or ask questions?*
- *Do we support diversity? Do we have a culture that promotes gender and cultural diversity and eliminates harassment and other behaviours that lead to a toxic workplace?*

- *Do we use public education events at village fairs and other such events to provide information on being a volunteer firefighter?*
- *Do we actively provide training and promotional opportunities to firefighters who wish to advance?*
- *Do we have a compensation system that is fair and appropriate?*
- *Do we provide other incentives and rewards to acknowledge the contribution of firefighters?*
- *Is there a clear and supported plan for advancement?*
- *Do we consistently engage in a formal exit interview with firefighters who are leaving to identify opportunities for improvement?*

Examples of activities that can promote a positive organizational culture that supports recruitment and retention include regular 'town hall' meetings with the Chief, recognition such as provision of hats and other Fire Department clothing, and an annual 'awards' night

Although it is apparent that OWFC does not have retention or recruitment issues, ongoing efforts to support a diverse workforce should be supported.

Recommendation # 48: ***The OWFC should continue its efforts to welcome and support diversity in its recruitment efforts.***

7.5.6 Compensation.

In the past, being a volunteer was just that; there was no compensation. Training was minimal and calls were infrequent. Today's volunteer is expected to attend:

- Approximately 72 hours of scheduled training sessions per year and 16 hours required to cover CPR & First Aid Course every 2 years.
- Additional hours are required for driver training and specialty courses such as Company Officer, Pump Operations and NFPA courses.

This commitment is in addition to actual calls.

In reality, the commitment required is more accurately described as a part-time job than volunteer.

OWFC has already adopted a compensation method of hourly reimbursement with a minimum of two hours for attending a call. This system provides a more appropriate and fair method of compensation as opposed to the traditional point system. There are also certain insured benefits provided under a group plan (loss of life, disability, etc.).

7.5.7 Succession Planning and Retirement Policy

A formal succession plan should be developed to plan for development of firefighters to replace officers as they retire. This plan should identify likely retirements over the next 5 years on an on-going basis and include a specific education and graduated responsibility map for individuals who wish to pursue advancement.

Clear path career advancement is an important incentive to maintain morale, engagement and retention. Developing leadership capability and competency with senior firefighters enables calls to be well managed when Officers may not be present or are limited in numbers.

Retirement in a volunteer department may be a difficult issue as senior firefighters and officers are committed and may not wish to end their involvement at a certain age. On the other hand, there can be situations where a member's health, physical fitness or willingness to actively learn and implement new procedures may be an issue.

From a risk management perspective, there is merit in considering a means to encourage retirement at a certain age. Some departments have a by-law requirement that all firefighters over the age of 60 require an annual medical assessment to confirm that they are able to perform the tasks expected of a firefighter. Some departments impose a mandatory retirement age. Another tactic is to have annual conversations with senior firefighters and officers to discuss retirement and develop a mutually agreeable, documented plan.

Recommendation # 49: ***That a formal Succession plan and Retirement Policy be developed.***

7.5.8 Policies and Operating Guidelines

Policies and operating guidelines (OGs) are used by the fire service to ensure that services and functions are performed in a specific and routine manner. Adherence to policy and procedural operating guidelines promotes operational continuity, safety of personnel, operational effectiveness and consistency in the delivery of fire protection services. Comprehensive and current Operational Guidelines demonstrate due diligence and reduce potential municipal liability.

A policy is a principle or rule to guide decisions and achieve rational outcomes. A guideline is a statement that prescribes a course of action. In the Fire Service "Guidelines" are used rather than "Procedures" to allow some degree of flexibility to adapt to specific circumstances associated with emergency events.

OWFC has a comprehensive set of operating guidelines. The operating guidelines include an index to assist with locating the needed document and are organized by subject area.

Organizing and consolidating Standard Operating Procedures and Operating Guidelines as Operating Guidelines only by subject content would assist access and clear understanding of required procedures.

Previous recommendations have noted that a specific number of operating guidelines should be subject to detailed review annually, lesson plans should incorporate specific reference to the relevant OG. OGs should specifically refer to source documents including Section 21 Guidance Notes and OFMEM communiqués.

Recommendation # 50: ***A target number of OGs to be reviewed annually be established as well as an annual target for new OG development.***

Recommendation # 51: ***OGs be developed for solar installations, propane gas emergencies, multi-casualty events, and B.L.E.V.E.***

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7.5.9 Records and Documentation

Concurrent documentation and effective record keeping is essential to effective evaluation of individual and departmental performance, ensuring worker safety, ensuring that equipment operates when needed and as designed as well as protecting individuals and the Municipality from liability. A comprehensive records management system will:

- identify the records to be maintained,
- identify the location of records and methods of securing records
- clearly identify the levels of authorization to access records,
- defines the back-up process to ensure business continuity in the case of an adverse event and,
- identify the retention period for records.

Fire service records are municipal records and are subject to the Municipal Act, 2001 and the *Municipal Freedom of Information and Protection of Privacy Act,* 1990. The Municipal Act requires that a municipality shall retain and preserve the records of the municipality and its local boards in a secure and accessible manner, and may establish retention periods during which the records of the municipality must be retained and preserved.

Specific OGs should be in place to require that OWFC records shall be maintained systematically in written documents, computer systems, staff notebooks and other formats. Specific records should be identified that are required to meet various legislative requirements, demonstrate due diligence, and document actions taken. These documents are essential in legal proceedings and assist in planning for future needs, and evaluating programs and services.

The OGs should also address:

- how record storage is secured and access controlled,
- responsibility for management of records
- procedures for recording of vehicle and equipment logs, training and incident records
- back-up procedures and systems for digital data,

The OWFC uses FirePro© software package for document management and statistical analysis. There are comprehensive reports filled out for each call and the information is entered into FirePro©. Paper copies are kept in the Administration Office. Personnel Files are kept in the Chief's Office.

Training Records for each firefighter are kept in the Deputy Chief's Office with all the certificates/courses they have completed.

Documentation exists regarding capital equipment, compliance with the Town of Carleton Place Capital Inventory Policy. Further investigation is required to determine how to develop a capital inventory process and documentation that is consistent with the Municipal policy.

Fire Inspections reports are kept as computer records with regular back-ups. Each inspection is filed by address.

Each vehicle has a folder with required documents including manuals, maintenance records and safety inspections. A copy of the documentation is kept in the Administrative Office. Although there are routine inspections carried out on an annual basis, a formal preventative maintenance program should be developed based on the manufacturer's recommendations.

Firefighter hours are tracked on sign-in sheets which are kept in the Administrative Office.

The documentation and filing process is supported by the Administrative Assistant.

FirePro© is a comprehensive information management tool. Excellent work has been done to utilize this capability and efforts should continue to automate as many records as possible. It is useful to maintain paper records as well for ease of access to originals and as a backup.

Fire management software such as FirePro© is continually evolving. It is important to evaluate updates as they become available. Further, software functionality should be evaluated on a continuous basis to determine if another product could offer significant additional benefits. Should upgrade or transition to another product be considered, a comprehensive risk/benefit analysis should be undertaken as software application migration can be resource intensive and potentially disruptive to operations.

There would be benefit in having an OG to document the location and system associated with both electronic and paper filing. This would facilitate identifying what records are being kept and where they are located and the retention period. This is particularly important as records and documents are often electronic and are kept in multiple data bases and locations.

From a business continuity perspective, this analysis is critical to understanding where there are risks and if there are appropriate back-up and alternative sites available should normal access be disrupted.

Recommendation #52: ***That office procedures, processes, record location and access methods be documented and reviewed to ensure that complete records are being maintained, are readily accessible and the fire management software is being used to its full potential.***

Recommendation # 53: ***That office procedures, processes, record location and access methods be reviewed to determine if adequate back-up and alternative measures are in place to maintain business continuity should normal access or procedures be disrupted.***

IPads have the potential to improve fire inspection and pre-plans. Data can be collected on-site and uploaded in real-time eliminating delays and simplifying the documentation process. IPads can also be used by Senior Officers as a communication, information sharing, and Command resource tool.

Recommendation # 54: ***That electronic tools such as iPads as well as existing or enhanced capability of the fire management software be explored to better keep track of performance measures and field documentation including fire inspections.***

7.5.10 Electronic Communication and Access to Documents

Effective communication including full access to documents such as policies, reports, OGs, notices and training lesson plans is vital to keeping firefighters informed and engaged. Social media such as Facebook and Twitter can be useful for rapid communication. An intranet access tool to facilitate secure access to documents, email, and scheduling software should be provided.

To ensure all firefighters and officers have access to a laptop and required software, an affordable employee purchase plan could be considered.

Recommendation #55: ***To facilitate communication and access to OGs, training materials and other documents it is recommended that an employee purchase plan for laptops/tablets be consider and implemented if required.***

7.6 Strategic Direction #6 – Collaborative Relationships

No man is an island, entire of itself [27]

Few endeavors are more reliant on the assistance of others than emergency response. Effective relationships with responders within one's community as well as neighbouring communities are essential to serving the public interest in the most efficient and effective way.

Although the principle applies to even the largest and most sophisticated Fire Service, it is particularly true with volunteer services where coverage of large geographic areas and limited human and technical resources are present. The challenge is particularly compounded by the public expectation that the same level of emergency response service will be available whether you live in the city or country.

This Strategic Direction will review the formal and informal relationships that exist with neighbouring Fire Departments and other emergency response partners.

7.6.1 Mutual Aid Agreements.

The purpose of Mutual Aid Agreements is to enable requests for assistance from neighbouring communities support the Fire Department when additional resources are required.

Ocean Wave Fire Company is an active participant in the Lanark County Mutual Aid Agreement. This formal agreement is based on the OFMEM template and provides for a Mutual Aid Coordinator, identifies the key resources each participating Department has and outlines the protocol for activation. The purpose of the agreement is to facilitate the rapid deployment of resources from one municipality to another should they be required.

OWFC participates in a number of automatic aid agreements whereby OWFC or a neighbouring Fire Department will be automatically dispatched to respond when they are the closest department. For example, OWFC will respond to incidents in the south and south-west area of Mississippi Mills automatically as they are the closest station.

There may be an opportunity to expand automatic aid agreements with other neighbouring municipalities that could be mutually beneficial. For example, a joint automatic agreement to supply a pumper for a confirmed structure fire during work-days could assist both municipalities in improving response times with adequate resources.

OG-O-21 addresses Automatic Aid Response. There does not appear to be an OG that addresses Mutual Aid activation.

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[27] John Donne ***Devotions upon emergent occasions and seuerall steps in my sicknes - Meditation XVII***, 1624

The fire chiefs that participate in the Lanark County Municipal Aid Agreement meet regularly as a Lanark County Mutual Aid Committee under the leadership of a Mutual Aid Coordinator appointed from the participating chiefs. OWFC should continue to actively support this Committee in addressing issues such as:

- Joint training initiatives,
- Improved Identification system of firefighting apparatus.
- Compatibility/interoperability of equipment (i.e. SCBA),
- Opportunity for shared purchasing to enhance interoperability and achieve purchasing efficiency,
- Opportunities to share expertise among departments,
- Continued development of common policies and operating guidelines for such subjects as: initial response, communications, and IMS integrated command protocols,
- Review of process for requesting resources,
- Continuity of coverage,
- Specific technical rescue service access protocols and related OGs - High Angle, Trench, Confined Space, Heavy Extrication, Haz Mat, and Swift Water.
- Radio technology plan.
- Development of an inventory of departmental resources.
- Regular liaison meetings with OPP and Lanark EMS to discuss first responder issues.

Recommendation # 56: OWFC *should continue to actively participate in the Lanark County Mutual Aid Committee to improve Emergency Response capability.*

Recommendation # 57: OWFC *should actively pursue automatic aid agreements with neighbouring municipalities to support work-day response to major incidents.*

7.6.2 Access to Provincial Resources.

An OG should be in place to address access to provincial resources such as Chemical, Biological, Radiological, Nuclear Explosive (CBRNE) and Heavy Urban Search and Rescue (HUSAR), Ministry of Environment and Ministry of Natural Resources as well as resources for a major disaster.

Opportunities to work with the Lanark County Mutual Aid Committee, OPP, Lanark EMS, OFMEM officials and Ottawa Fire should be sought to exercise major response capability associated with a CBRNE, HUSAR, Multi-Casualty or other large scale event that requires local, regional and provincial resources.

Recommendation # 58: OWFC *should seek opportunities to participate with the Lanark County Mutual Aid Committee, OPP, Lanark EMS, OFMEM officials and Ottawa Fire to exercise major response capability associated with a CBRNE, HUSAR, Multi-Casualty or other large scale event that requires local, regional and provincial resources.*

8.0 Implementation, Ongoing Planning and Strategic Opportunism

The challenge associated with implementation of the recommendations contained in this Master Plan should not be underestimated. Change is often difficult as there are limited resources, competing priorities and inertia associated with comfort in maintaining the status quo. Nonetheless, creating momentum to achieve continuous improvement is essential to maintain a dynamic, progressive organization that provides optimal service to the community and is a source of pride to its members.

To implement the Master Plan recommendations, it is recommended that a monthly Officers Meeting be held to

- Translate Master Plan Directions and Recommendations into a three-year business plan
- Adopt a project management framework to create an annual work plan that identifies and tracks objectives by timeline, dependencies, specific tasks, and most responsible person (MRP).
- Prepare an Annual Report to Council to identify specific objectives accomplished during previous year and objectives to be accomplished in the next year.

By formally monitoring the Master Plan Implementation on a monthly basis, the OWFC Officers will ensure that

- An annual training plan is produced, approved and implemented
- Public education, prevention and enforcement objectives are included in the annual work plan as well as proposed staffing and required operating and capital investments.
- A schedule for of review for OGs and by-laws to maintain currency and distribute workload over time is developed and implemented.
- There is a review and update of position descriptions as required and annual performance reviews are completed for all staff.

The annual work plan should be developed in consultation with the firefighters and opportunities to allow firefighters to take responsibility for tasks should be encouraged as a means to develop engagement and leadership skills.

Recommendation #59: *To implement the Master Plan recommendations, it is recommended that a monthly Officers Meeting be held to incorporate the Master Plan Directions and Recommendations into a three-year business plan, provide an*

annual report to Council, and monitors recommendation implementation using a project management framework.

This Master Plan is designed to provide macro level direction for a five year period. It is, however, prepared at a point in time based on information representing what is known and can reasonably be assumed. Much, of course, is not known and the environment is constantly changing as technology, science, attitudes, and priorities evolve.

Thus, this Master Plan should be seen as a guide that will need to be evaluated on an ongoing basis and changes will be required as circumstances evolve. Knowing the Mission, Vision, Values, and Directions of the OWFC will assist in the determination of an aligned response to the challenges and opportunities ahead such that required changes are strategic.

9 Appendices

Appendix I: List of Recommendations:

Recommendation #1: *Following best practice examples, a comprehensive public education program designed to prevent fires, injury, death and property loss should be developed with specific policy statements and operating guidelines as appropriate.*

Recommendation #2: *The public education program should identify priority objectives targeted to areas of greatest risk identified through risk assessment including review of fire cause analysis, focus on provincial priorities including smoke and CO Alarms and should address high risk populations including children and seniors. In partnership with other first responders, the program should address public education priorities designed to reduce injury and fatalities due to motor vehicle and other accidents.*

Recommendation #3: OWFC *review Fire Inspection Operating Guidelines OG-A-2 to ensure that the procedure:*

- *Fulfills the Requirements of Ont. Reg 150/13, The Fire Code.*
- *Augments the statutory requirements for fire inspection with pro-active, risk-based 'consultation' visits with annual targets established.*
- *Includes a home visit program to encourage residential dwelling units for installation and maintenance of smoke alarms and carbon monoxide alarms.*
- *Specifies the appropriate involvement and role of fire prevention personnel in the examination of plans and specifications of permits for new or renovated buildings for compliance with applicable fire regulations.*

Recommendation #4: *It is recommended that the Establishing and Regulating By-Law be reviewed and revised to require the Chief to develop and provide an effective fire prevention program that will:*

a) Ensure, through plan examination and inspection, that required fire protective equipment is installed and maintained within buildings,

b) *Reduce or eliminate fire hazards,*

c) *Ensure compliance with applicable Municipal, Provincial and Federal fire prevention legislation, statutes, and codes in respect to fire safety, and*

d) *Develop and maintain an effective public information system and educational program, with particular emphasis on school fire safety programs, and commercial, industrial and institutional staff training.*

Recommendation #5: *SOP-O-8 Fire Cause Determination should be reviewed and/or augmented to address:*

- *The need to investigate and report on cause and determination.*
- *Process and procedures to be used to investigate fires.*

- *Protocol for notification for the Training/Fire Prevention Officer and other senior officers.*
- *Protocol for notifying the Ontario Fire Marshal and police.*
- *Required documentation and procedure for secure storage of records.*
- *Process for review as part of ongoing development of fire prevention and public education strategies.*

Recommendation #6: *A specific operating guideline should be developed for fire safety plans which require that 1) an inventory of all occupancies in the municipality which require fire safety plans be identified as well as the frequency of inspection, and 2) sets out the requirement for reporting to Council that required occupancies have a fire safety plan in place.*

Recommendation #7: *OWFC should review and revise OG-O-11 Operating Guideline for Pre-incident Planning to: reflect best practice methods for pre-plan development, target objectives for the number of pre-plans to be developed annually, and organizational responsibility.*

Recommendation #8: *That Pre-Plan development be coordinated with suppression training to facilitate effective and safe emergency response.*

Recommendation #9: *That a policy and procedure be developed regarding the respective roles of the OWFC and Buildings Department with respect to building permit and planning application approvals as well as building inspections.*

Recommendation #10: *A specific OG should be in place for the inspection program for vulnerable occupancies which addresses:*

- *Identification of vulnerable occupancies and registration with the OFMEM*
- *Review of fire safety inspections files and required updates to the Vulnerable Occupancy Registry.*
- *Requirement that the Fire Officials who are responsible for approving a fire safety plan for a building containing a care occupancy, a care and treatment occupancy or a retirement home has successfully completed a program or course acceptable to the Fire Marshal*
- *Procedure for conducting spot audits*
- *The use and understanding of applicable legislation and Fire Marshal Directives as demonstrated through documentation and records,*
- *Use of a Fire safety inspections checklist to conduct inspections as per Fire Marshal Directive 2014-002*
- *Procedures for the approval of fire drill scenarios and evaluation and approval of fire safety plans.*
- *Monitoring compliance with new Fire Code requirements as applicable such as self-closing devices, emergency lighting sprinkler systems, automatic notification of the Fire Department, and smoke alarms in each suite.*

Recommendation #11*: A study should be initiated to investigate potential upgrades to Station #1 to: 1) comply with post-disaster requirements, 2) to provide rapid decontamination showers and related amenities, 3) provide a dedicated room for bunker gear storage, and 4) additional offices for fire prevention and public education.*

Recommendation # 12: OWFC *should develop an Operating Guideline that addresses procedures for documenting, recording and reporting response times excluding calls cancelled on-route or incident not found such that the average response time for the first arriving apparatus and responding personal can be determined as a percent of calls and by type of call.*

Recommendation #13*: That the OWFC collaborate with the Public Works Department to ensure that there is a comprehensive Policy and Procedure for the maintenance, accessibility, inspection, flow testing and colour coding of public hydrants in the Municipality.*

Recommendation #14: OWFC *continue to monitor and document radio transmission issues, identify known locations where radio transmission may be compromised, continue with training and awareness regarding procedures to minimize impact of radio transmission limitations and investigate options to improve transmission reliability including mobile repeaters and/or additional towers.*

Recommendation #15: *In collaboration with the Lanark County Fire Departments and Lanark County Officials, OWFC request that additional operational (tactical) frequencies be made available for the safe and effective management of simultaneous fire and rescue emergencies.*

Recommendation #16: *In collaboration with the Lanark County Fire Departments, OWFC continue to monitor the availability and implementation for fire radio technology advances and plan for future technology upgrades.*

Recommendation #17: *The current practice of storing bunker gear in apparatus bay racks should continue to be encouraged.*

Recommendation # 18: *A specific OG should be developed regarding response to station and storage of bunker gear. The OG should address exceptions where response to scene is appropriate and where bunker gear is permitted on apparatus (i.e. Chief and Deputy Chief's vehicles)*

Recommendation #19: SOP-O-5 *should be amended to reference appropriate OHSA Sec. 21 Guidance Notes and address practices and procedures related to the issue, care, maintenance, inspection procedures, inspection frequency, inspection documentation and replacement of personal protective equipment (PPE).*

Recommendation #20: *OG-S-5, The Respiratory Program, should be amended to include a schedule for review and updates.*

Recommendation #21: *The need to acquire additional thermal imaging cameras should be evaluated in context of current and future fireground protocols.*

Recommendation #22: *OWFC should evaluate the effectiveness and capability of the current positive pressure fans in context of current and future requirements.*

Recommendation #23: *SOP-A-6 should be reviewed to ensure that specific procedures for pre-trip inspections (non-emergency) and post-trip inspections (emergency response) are stated.*

Recommendation #24: OWFC *should require monthly truck, equipment and PPE inspections as per manufacturer's instructions that includes log book documentation and a procedure for Officer sign-offs and remediation as appropriate.*

Recommendation #25: *With the continuing growth of the municipality as well as need to improve fire inspection, fire prevention and public education programs, the OWFC and Town of Carleton Place should plan for the recruitment of an Assistant Chief, Fire Prevention and Public Education as well as a full-time Administrative Assistant.*

Recommendation # 26: *Response Staffing level targets should be established and monitored to determine if additional firefighters or other strategies are required to achieve required on-scene staffing.*

Recommendation #27*: That the Establishing and Regulating By-Law identify the services not provided by OWFC and which are provided by others by agreement.*

Recommendation # 28: *The OWFC Joint Occupational Health & Safety Sub-Committee meet at least every 3 months, and the frequency of meetings, number of workers trained, and number of station inspections be reported to Council on a quarterly basis.*

Recommendation #29: *The OGs be amended as appropriate to specify mandatory reporting (hydro, natural gas) as well as identify where specific contact information for outside agencies is available.*

Recommendation #30: *That written protocols be developed regarding access to specialized technical rescue teams including trench, rope, high angle, confined space, haz mat, swift water, water/ice, CBRN, and HUSAR.*

Recommendation # 31. *OWFC –O-9 be revised to ensure NFPA 1521 'Standard for Fire Department Safety Officer' and Guidance Note 2-4 'Incident Safety Officer' are adequately reflected.*

Recommendation # 32: *An OG needs to be developed/amended to require Lesson/Training Plans, approved by the Chief, to be in place that include specific safety procedures including incorporating a safety officer.*

Recommendation # 33: *Health and safety issues, policies and practices be continually monitored and reviewed including review and circulation of OFMEM communication and encouraging senior officers to attend the annual Ontario Association of Fire Chiefs Health & Safety Conference.*

Recommendation # 34: *That the Ocean Wave Fire Company develop and implement quarterly reporting based on the Balanced Scorecard accountability framework.*

Recommendation # 35: *That the Ocean Wave Fire Company develop and implement an annual public report that provides an overview of Department activity and fulfills the requirements of Ont. Reg. 377/18 Ont. Reg. 377/18 Public Reporting Requirements for Volunteer Fire Departments.*

Recommendation # 36: *That the review and updating of Operating Guidelines (OG's) continue with a specific target performance metric regarding number to be developed, reviewed and updated be identified as part of the OWFC annual objectives and be monitored in the quarterly report.*

Recommendation # 37: *The OWFC Training Operating Guidelines be reviewed to ensure that there is a clear requirement for:*

- *Formal lesson plans to be developed in compliance with NFPA 1041 and approved by the Chief.*
- *All training lesson plans reference applicable Section 21 Guidance Notes.*

The training program curriculum and specific content should be based on NFPA 1410 Standard on Training for Emergency Scene Operations. The training curriculum should be reviewed and published annually including a reference calendar.

Recommendation # 38: *A process for debriefs after calls and related documentation process to identify issues, questions and 'lessons learned' should be encouraged with a formal OG.*

Recommendation # 39: *To maintain core competencies, the training curriculum and calendar needs to reflect a commitment of 100 to 120 training hours per annum.*

Recommendation #40: *Subject matter experts/teams be identified and supported to assist in the review and development of OGs, lesson plans, and to deliver common training to each station to ensure a consistent interpretation of OGs.*

Recommendation #41: *Ocean Wave Fire Company continues to support regional training initiatives including the joint recruit program.*

Recommendation # 42: *That a Business Case Proposal be developed and presented to Council to propose construction of a dedicated fire training facility.*

Recommendation #43: *That Ocean Wave Fire Company continues to encourage and support Emergency Medical Responder or equivalent certification for all firefighters.*

Recommendation #44: *An optional monthly training night be considered to enhance medical and other firefighter competencies for those firefighters who wish to advance and maintain a high level of competency.*

Recommendation # 45: *That an OG and Training Program be developed and implemented for on-scene initial management of mass casualty events such as school bus rollovers, tornadoes, long term care facility fires, and multi-vehicle accident.*

Recommendation #46: *That a full-time Assistant Chief position be established to provide leadership to the Fire Prevention, Inspection and Public Education Division.*

Recommendation # 47: *Awareness of the Municipal Human Resource Policies and Procedures should be encouraged and access to the Policies and Procedures by hard copy or intranet should be available to all firefighters.*

Recommendation # 48: *The OWFC should continue its efforts to welcome and support diversity in its recruitment efforts.*

Recommendation # 49: *That a formal Succession plan and Retirement Policy be developed.*

Recommendation # 50: *A target number of OGs to be reviewed annually be established as well as an annual target for new OG development.*

Recommendation # 51: *OGs be developed for solar installations, propane gas emergencies, multi-casualty events, and B.L.E.V.E.*

Recommendation #52: *That office procedures, processes, record location and access methods be documented and reviewed to ensure that complete records are being maintained, are readily accessible and the fire management software is being used to its full potential.*

Recommendation # 53: *That office procedures, processes, record location and access methods be reviewed to determine if adequate back-up and alternative measures are in place to maintain business continuity should normal access or procedures be disrupted.*

Recommendation # 54: *That electronic tools such as iPads as well as existing or enhanced capability of fire management software be explored to better keep track of performance measures and field documentation including fire inspections.*

Recommendation #55: *To facilitate communication and access to OGs, training materials and other documents it is recommended that an employee purchase plan for laptops/tablets be considered.*

Recommendation # 56: OWFC *should continue to actively participate in the Lanark County Mutual Aid Committee to improve Emergency Response capability.*

Recommendation # 57: OWFC *should actively pursue automatic aid agreements with neighbouring municipalities to support work-day response to major incidents.*

Recommendation # 58: OWFC *should seek opportunities to participate with the Lanark County Mutual Aid Committee, OPP, Lanark EMS, OFMEM officials and Ottawa Fire to exercise major response capability associated with a CBRNE, HUSAR, Multi-Casualty or other large scale event that requires local, regional and provincial resources.*

Recommendation #59: *To implement the Master Plan recommendations, it is recommended that a monthly Officers Meeting be held to incorporate the Master Plan Directions and Recommendations into a three-year business plan, provide an annual report to Council, and monitors recommendation implementation using a project management framework.*

Appendix II: Apparatus Plan

Unit	Description	Year	Scheduled Replacement	
Pumper 220	2016 Spartan Metro Star	2017	2032	
Ladder 210	Seagrave Marauder	2003	2023	
Rescue 240	Spartan Gladiator / Eastway walk-in heavy rescue	2010	2030	
Pumper 221	Volvo WX Pumper	1996	2020 (replacement to be determined)	
Car 270	Tahoe	2019	2029	
Truck 271	Dodge	2014	2024	
Truck 272	Dodge	2014	2024	
Car 273	Kia Sorrento	2016	2026	

Appendix 3: OG Table of Contents Example

TABLE OF CONTENTS

3021. PERSONAL IDENTIFICATION CARDS
3022. SMOKING POLICY
3023. EMPLOYEE SUGGESTION PROCESS
3024. INJURY OR DEATH
3025. POLITICAL ACTIVITIES
3026. RETIREMENT
3027. RESIGNATION
3028. PROGRESSIVE DISCIPLINE
3029. EMPLOYEE ASSISTANCE PROGRAM
3030. PROBATION
3031. PERFORMANCE EVALUATION
3032. DRUGS AND ALCOHOL

4000 – RADIO COMMUNICATION

4001. DISPATCH AND RESPONSE PROTOCOLS
4002. RADIO COMMUNICATION PROCEDURES
4003. RADIO MESSAGE PRIORITIES
4004. COMMUNICATION PHRASES AND TERMS
4005. PORTABLE RADIOS
4006. CHANNEL ASSIGNMENTS
4007. OTHER COMMUNICATION EQUIPMENT

5000 – EMERGENCY OPERATIONS

5001. MEDICAL RESPONSES
5002. STAFFING AND VEHICLE ASSIGNMENTS
5003. CARBON MONOXIDE ALARMS
5004. BOMB THREATS
5005. HELICOPTER OPERATIONS
5006. MULTI-STORY OPERATIONS
5007. ACCOUNTABILITY SYSTEM
5008. PERSONNEL ACCOUNTABILITY REPORT (PAR)
5009. DISASTER MANAGEMENT
5010. HAZARDOUS MATERIALS OPERATIONS
5011. INCIDENT ACCOUNTABILITY
5012. INCIDENT MANAGEMENT SYSTEM
    5012.1. COMMAND STRUCTURE
    5012.2. BASIC ORGANIZATION
    5012.3. STAGING AND BASE
    5012.4. FUNCTIONS OF COMMAND
    5012.5. ESTABLISHING COMMAND
    5012.6. DEPLOYING RANKING OFFICERS
    5012.7. EXPANDING THE INCIDENT
    5012.8. EXPANSION TO MAJOR OPERATIONS (Unified Command)
    5012.9. INCIDENT TERMINATION
    5012.10. TERMS
5013. INVESTIGATING THE SOURCE OF FIRE ALARMS
5014. INITIAL COMPANY OPERATIONS
5015. RAPID INTERVENTION TEAMS
5016. WORK PERIODS WHEN USING SCBA
5017. OVERHAUL
5018. INCIDENTS INVOLVING SEWAGE
5019. DRY STANDPIPES
5020. PET OXYGEN MASKS
5021. AUTOMATIC AID
5022. REQUESTING MUTUAL AID
5023. DISPATCHING SPECIALTY UNITS
5024. MULTIPLE CASUALTY INCIDENTS
5025. POST INCIDENT ANALYSIS
5026. POST INCIDENT REPORT

5027. TECHNICAL RESCUE CATEGORIES
5028. RESCUE OPERATIONS
5029. WATER RESCUE RESPONSE
5030. OTHER AGENCIES INVOLVED IN WATER RESCUE
5031. WILDLAND RESPONSE

6000 - SAFETY

6001. SAFETY OFFICER
6002. EXPOSURE PREVENTION
6003. REPORTABLE EXPOSURES
6004. IMMUNIZATIONS AND HISTORY
6005. RESPONSE SAFETY EQUIPMENT
6006. PERSONAL PROTECTIVE EQUIPMENT (PPE)
6007. PERSONAL PROTECTIVE EQUIPMENT IDENTIFICATION
6008. INSPECTION
6009. REPAIRS
6010. CLEANING
6011. STORAGE
6012. INSPECTION OF SCBA
6013. MAINTENANCE AND REPAIRS
6014. MULTI GAS DETECTORS
6015. RESCUE AIR KITS (RAK)
6016. SCBA FACEPIECE FIT TESTING
6017. RESPIRATORS IN USE
6018. RESPIRATORY PROTECTION PROGRAM
6019. FACILITY SAFETY INSPECTION
6020. REHABILITATION
6021. VEHICLE COLLISION PREVENTION
6022. DRIVER TRAINING
6023. APPARATUS OPERATIONS
6024. VEHICLE COLLISION REPORTING
6025. STATION SECURITY PROTOCOL

7000 - EQUIPMENT

7001. MAPBOOKS
7002. ENGINE PUMP TEST
7003. AERIAL
7004. EXTINGUISHERS
7005. NOZZLE MAINTENANCE
7006. HOSE MAINTENANCE, TESTING AND INSPECTION
7007. BATTERY OPERATED EQUIPMENT
7008. APPARATUS COMPARTMENT INVENTORY
7009. REQUISITIONING SUPPLIES
7010. MISSING OR DAMAGED STATION ITEMS
7011. UNIFORMS
7012. REPAIR AND MAINTENANCE OF APPARATUS
7013. APPARATUS SERVICE

8000 – TRAINING

8001. TRAINING CURRICULUM AND CALENDAR
8002. LESSON PLANS
8003. MEDICAL TRAINING
8004. TRAINING FILES

9000 – ENVIRONMENTAL

9001. SPILL RESPONSE AND REPORTING
9002. FIRE APPARATUS WASHING
9003. STATION RECYCLING
9004. ENERGY CONSERVATION