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CONSULTING



OAKVILLE

FIRE MASTER PLAN

EXECUTIVE SUMMARY



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Acronyms and Abbreviations

ACTO	Assistant Chief Training Officer
AET	Auto Extrication Team
ANSI	American National Standards Institute
AODA	Accessibility for Ontarians with Disabilities Act
APM	All Personnel Memos
AVL	Automatic Vehicle Location
BDC	Burlington Dispatch Centre
CACC	Central Ambulance Communications Centre
CAD	Computer Aided Dispatch
CAFC	Canadian Association of Fire Chiefs
CAO	Chief Administrative Officer
CEMC	Community Emergency Management Coordinator
CFPO	Chief Fire Prevention Officer
CFSEM	Comprehensive Fire Safety Effectiveness Model
CIS	Computer Information System
CO	Carbon Monoxide
CPR	Cardiopulmonary Resuscitation
CRP	Community Risk Profile
CTO	Chief Training Officer
DCA	Development Charges Act
Dillon	Dillon Consulting Limited
DP	Departmental Policies
DRDC	Defence Research & Development Canada
ECG	Emergency Control Group
EFR	Emergency First Responder
EMCPA	Emergency Management and Civil Protection Act
EMS	Emergency Medical Services
EOC	Emergency Operations Centre
ERF	Emergency Response Facility
ERU	Emergency Response Unit
ESINC	Emergency Services Introduction for New Canadians
EVO	Emergency Vehicle Operator
FMP	Fire Master Plan
FPO	Fire Prevention Officer
FPPA	Fire Protection and Prevention Act
GIS	Geographic Information System
HRPS	Halton Regional Police Services
IMS	Incident Management System
IRM	Integrated Risk Management
JHSC	Joint Health and Safety Committee

KPIs	Key Performance Indicators
LBDM	Livable by Design Manual
LERL	Lower Effective Response Level
MW	Megawatt
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
OBC	Ontario Building Code
OEMC	Oakville Emergency Management Committee
OFC	Ontario Fire Code
OFD	Oakville Fire Department
OFMEM	Office of the Fire Marshal and Emergency Management
OHSA	Occupational Health and Safety Act
OPFA	Oakville Professional Firefighters Association
OSTIs	On-Shift Training Instructors
PFSG	Public Fire Safety Guideline
PIAR	Post Incident Analysis Review
Plan	Fire Master Plan
PPE	Personal Protective Equipment
QEW	Queen Elizabeth Way
RIT	Rapid Intervention Team
RMS	Records Management Software
SCBA	Self-Contained Breathing Apparatus
SIR	Skills Improvement Requests
SOP	Standard Operating Policy
TAPP-C	The Arson Prevention Program for Children
TO	Training Officers
Town	Town of Oakville
UERL	Upper Effective Response Level

Executive Summary

The Town of Oakville (Town or Oakville) initiated the development of this Fire Master Plan (FMP) as part of its strategic planning process and its commitment to managing growth. The FMP will guide the Oakville Fire Department (OFD) and the delivery of fire protection services over the next ten and fifteen years (to 2026 and 2031 respectively) through a strategic framework and recommended action plan. The FMP is based in part on community needs resulting from the impacts of existing and future growth, stakeholder engagement results. The FMP is also based on existing research, information, issues and strategies to ensure best practices are being followed or are recommended for adoption.

Fire Master Plans are typically developed as ten year plans, with updates completed at the five year horizon. The Town of Oakville and its fire department have been diligent in developing, maintaining and updating their Fire Master Plans on the recommended cycles. The Fire Master Plan includes a review of all aspects of the Oakville Fire Department's operations. This includes recommendations for service level standards, staffing and apparatus deployment, non-suppression services and implementation strategies. The development of this FMP will assist Council in providing the level of fire protection services in the Town of Oakville needed to meet both the needs of the community and the requirements of the Fire Protection and Prevention Act (FPPA) in an efficient and cost-effective manner.

The completion and implementation of this Fire Master Plan is designed to incorporate the strategic goals listed within the Town's 2015 to 2018 Council Strategic Plan, with respect to the fire department and the services it provides. Specifically, the Plan supports good governance, fiscal sustainability, and outstanding services to residents. In line with these areas of focus, the Town applies performance based budgeting to enhance accountability and cost-efficiency, and applies key performance indicators (KPIs) to track effectiveness and progress of its departments. The OFD has KPIs in place for each division, which are presented and reviewed within this FMP, based on the recommendations and observations made for each division.

The foundation of this plan is based on local, provincial and national context. Industry best practices, including relevant standards, legislation, and analysis techniques, directly inform the plan methodology. The plan is also driven by the community context, including existing services and future needs based on growth. Using this foundation, the FMP presents an assessment of the operations and divisions within the Oakville Fire Department and provides future direction to meet the needs and circumstances of the Town.

Consultation with key stakeholders, including members of the public, Town staff and Town Council was also a core component of developing this FMP. The Oakville Fire Department

(OFD) is recognized by its stakeholders and the community as providing an effective and efficient level of emergency response and community fire protection services. Positive support for the current level of services was received throughout the entire consultation process.

Benchmarking and key performance indicators are important to the Town of Oakville as a means to ensure that Town residents are receiving the most efficient and effective service possible within the fiscal realities of the municipality. As part of this FMP, a benchmarking exercise was completed through desktop reviews and surveys of peer fire department information for municipal peer comparisons provided by OFD. The aim of this exercise was to underscore the Town and OFD's commitment to performance benchmarking as a part of business process evaluation and decision making. Seven performance indicators were analyzed as a part of the peer comparison for a group of peer municipalities typically used by the Town of Oakville (provided by OFD) to benchmark the department's size, structure, operations, operating costs and geography. The results of this peer comparison review are included within the FMP.

This FMP includes strategies and recommendations to address both short-term and long-term planning horizons for the municipality. This is consistent with the fire master planning process outlined within the Office of the Fire Marshal and Emergency Management, Ontario (OFMEM), *Shaping Fire-Safe Communities Initiative*. This FMP also recommends optimization of the "three lines of defence" developed by the OFMEM and included within the *Comprehensive Fire Safety Effectiveness Model* that include:

- I. Public Education and Prevention;**
- II. Fire Safety Standards and Enforcement; and**
- III. Emergency Response.**

Optimization of the first two lines of defence has proven to be an effective strategy in reducing the impacts of fire, and fire related injuries across the province. This FMP recognizes the intrinsic value of optimizing these lines of defence in mitigating increasing emergency call volumes as a proactive strategy in managing the increasing costs of fire suppression services.

A comprehensive Community Risk Profile (CRP) was developed to assess the community's needs and circumstances for fire protection and prevention and to assess current fire suppression emergency response service levels in relation to the existing risk within the community and the evolution of risk based on proposed community growth. The results of the CRP are compared against the existing and planned services of the Fire Prevention Division and Suppression Division, with the objective of optimizing the three lines of defence model.

Enhancing the first two lines of defence is a key theme of this FMP, and will require dedicated resources within the Fire Prevention Division. A number of Fire Prevention Officer (FPO)

positions and one Public Educator position were identified in the 2007 FMP and subsequent update in 2011. The Fire Prevention Division has only gained one FPO position since 2007, and has decreased administrative support by half a position. Staffing recommendations are included within this plan and phased within the implementation to address the existing gap and future needs to move the department forward in conducting fire prevention inspections, providing public education, enhancing community safety and, ideally, reducing the demands for fire suppression responses.

In order to address the growth in North Oakville and the intensification within the built-up areas of the Town, the FMP recommends the addition of a ninth station (Station 8), including a new crew and new pump apparatus, and the future relocation of the existing temporary Station 9 to a permanent location (timing determined by growth and development). The development charges applicable for these projects are also identified within the plan. These recommendations are consistent with the previous FMPs and updates completed in 2007 and 2011.

In summary, the findings of this FMP reflect that the Town of Oakville is currently providing a level of fire protection services commensurate with its legislated responsibilities as defined by the Fire Protection and Prevention Act, 1997 (FPPA). The FPPA states that, *"every municipality shall, establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention; and provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances."*

The OFD reflects a progressive fire department that, with the support of the current and previous municipal Councils, has developed a comprehensive fire protection plan that is reflected by public satisfaction and support. The objective of this FMP is to provide strategies and recommendations consistent with the community's vision of becoming the most livable town in Canada.

Summary of Recommendations

The following is a summary of the Fire Master Plan recommendations for each division of the OFD.

Administration Division:

1. It is recommended that consideration be given to reviewing and updating the mission statement to better reflect the department's current commitment to the three lines of defence.
2. It is recommended that consideration be given to incorporating fire administration within the design and construction of a future new station facility.
3. It is recommended that the OFD review and update the current Establishing and Regulating By-law, including an approved fire prevention policy.

4. It is recommended that the Oakville Fire Department set regular intervals to review the fees within the Cost Recovery By-law, either annually or biannually.
5. It is recommended that the Oakville Fire Department explore opportunities for regular joint training sessions with Regional mutual aid partners to improve the efficiency of mutual aid responses.
6. It is recommended that the upcoming development charges background study/by-law update consider the recommendations within this FMP.
7. It is recommended that the OFD prepare and submit an annual report to Council.
8. It is recommended that all records, where possible, be managed and stored using FDM RMS and that the OFD hire an administrative support staff with an IT and analytic background to lead the RMS initiative as an advanced user of FDM.

Emergency Planning:

9. It is recommended that the municipal Emergency Operations Centre back-up site be relocated to an alternate, suitable location.
10. It is recommended that consideration be given to extending the contract or creating a permanent position of emergency management analyst should the OFD determine that the workload to support the position is ongoing and continues to provide value to the residents of the Town.

Fire Prevention Division:

11. It is recommended that a process be implemented to utilize the records management system (FDM) to accurately track and monitor public education initiatives targeted to priority groups within the community.
12. It is recommended that the Fire Prevention Division continue to deliver public education programs targeted at children and youth and continue to seek opportunities to expand these programs, such as developing and implementing the Adopt-a-School Program.
13. It is recommended that the OFD move forward with developing and implementing proactive home smoke alarm and CO alarm programs.
14. It is recommended that Council adopt the recommended performance targets for public fire safety education program delivery and include them as part of a Council approved Fire Prevention Policy.
15. It is recommended that the proposed inspection cycle by occupancy type become a part of the Fire Prevention Policy and be adopted by Council as an established level of service.
16. It is recommended that suppression staff be trained to conduct inspections in Class D, E and F (2&3) occupancies on an ongoing basis.
17. It is recommended that the fire prevention inspection district geographies be reviewed and revised as the new stations are added in alignment with the community-based fire protection model.

18. In moving forward with addressing fire prevention program delivery, it is recommended that the OFD continue to apply the community-based fire protection model, with prevention staff assigned to each station and the surrounding geography.
19. As part of the review and updates to the Fire Prevention Division policies, it is recommended that a more detailed SOP be established to enable and support OBC enforcement procedures.
20. It is recommended that an SOP on fire safety plan development and approval be created and implemented.
21. It is recommended that a comprehensive SOP on conducting investigations be developed and implemented as part of the enhancement of fire prevention division policies.
22. It is recommended that the Fire Prevention Analyst position be transitioned into a full-time Fire Prevention Officer position.
23. It is recommended that a Fire Prevention Officer be hired in the short term of this plan to address existing fire prevention capacity needs with the existing and enhanced inspection cycles.
24. It is recommended that the part-time administrative assistant position be transitioned to full-time with the Fire Prevention Division.
25. To address growth in North Oakville, coinciding with the addition of the Station 8 (the Town's ninth fire station), it is recommended that consideration be given to adding an eighth Fire Prevention Officer in the short to medium-term.
26. It is recommended that a second Public Education Officer be added to address the future built-up growth in North Oakville in the medium-term, establishing a northern and southern district.
27. It is recommended that the OFD monitor the workload related to new building inspections and site plans review resulting from growth demands with consideration for the addition of a ninth FPO (with duties including plans examination) in the medium to long term.

Training Division:

28. It is recommended that the on-shift training instructor model be considered for re-implementation to improve technical skill and knowledge among suppression staff, and to alleviate workload demands on the Training Division.
29. It is recommended that a standard operating policy be developed to outline the level of service, training requirements, and protocols in regards to automobile extrication and rescue.
30. It is recommended that the fire department be included within the Town's corporate driver training program to improve safety and reduce the risk of driving accidents and losses.

31. It is recommended that the Oakville Fire Department, in consultation with corporate human resource professional, develop a succession plan and strategy for implementation to prepare for the transition to a future management team.

Fire Suppression Division:

32. It is recommended that the deployment processes be consistent with first alarm staffing assignments according to risk levels of the occupancy or call the department is responding to (a minimum of four firefighters to a low risk call, 14 to a moderate risk call and 24 to a high risk call).
33. It is recommended that the Joint Operation Committee and Senior Steering Committee review the performance measure within the agreement and revise to reflect the current NFPA 1221 standard and review call handling and dispatch processing to determine if there are any efficiencies to improve this component of emergency response time.
34. It is recommended that the OFD implement processes or technologies for regularly reporting turnout time performance or displaying real-time performance (e.g. in-bay turnout clocks) in the stations.
35. It is recommended that as new stations are implemented, the design of the stations should target layouts which support timely turnout as well.
36. It is recommended that the Town of Oakville utilize the Oakville Fire Department as a stakeholder in the developing the urban design directions and traffic calming measures in order to effectively mitigate potential challenges to emergency response.
37. It is recommended that Station 8 be located near the intersection of Bronte Road and Pine Glen Road, staffed with a minimum staffing of four firefighters on a pump apparatus.
38. It is recommended that Station 9 be located near the intersection of Burnhamthorpe Road and 6th Line with a minimum staffing of four firefighters on a pump apparatus.
39. As the planned developments become reality over the next 10 to 15 years, it is recommended that OFD continue to assess and evaluate the depth of response coverage with the aim of maintaining service delivery performance.
40. It is recommended that Oakville Fire Department consider initiating discussions with the City of Burlington and the City of Mississauga to determine if an automatic aid agreement is a viable option to improve the depth of response coverage on the Town's western and eastern boundary areas.

Apparatus & Equipment / Fleet Review:

41. It is recommended that the Oakville Fire Department purchase a pumper apparatus to deploy from the Proposed Fire Station 8, scheduled to be delivered at the time of opening Station 8.
42. It is recommended that the Oakville Fire Department request that the Town's Roads and Works Department initiate EVT training for a general mechanic to plan the succession of the current EVT and to enhance current maintenance workflow.

Communications & Technology Review:

43. It is recommended that the OFD continue to explore strategies and technology options to support and enhance departmental communication.

1.0 Introduction

Situated on the shores of Lake Ontario, the Town of Oakville (Town or Oakville) is a growing community that has a vision to become the most liveable town in Canada. Part of achieving this vision is effectively and wisely managing its growth and the services it provides to current residents. Fire prevention and protection services, as required under the *Fire Protection and Prevention Act*, are essential services provided to the community. The Oakville Fire Department thus plays a role in moving the Town towards this vision for the future.

To help guide the Oakville Fire Department (OFD) in contributing to this vision, and as part of its commitment to managing growth, the Town initiated this Fire Master Plan (FMP or Plan). The FMP will guide the delivery of fire protection services over the next ten and fifteen years (to 2025 and 2031 respectively). Development of a FMP reflects the continued commitment of Council and senior staff to providing the highest level of services and programs to the community in the most cost-effective and efficient manner.

The foundation of this plan is based on the local and national context. Industry best practices, including relevant standards, legislation, and analysis techniques directly inform the plan methodology. The plan is also driven by the community context, including existing services and future needs based on growth. Using this foundation, the FMP presents an assessment of the operations and divisions within the Oakville Fire Department and provides future direction to meet the needs and circumstances of the Town.

1.1 Department and Community Overview

The Oakville Fire Department started as a volunteer department in May 1909. For over one hundred years, the department has evolved and grown into a full-time fire service operating from eight fire stations, as seen in **Figure 1**, with a total of 226 staff. Today the OFD provides fire protection services to a population of approximately 182,520 people (as of the 2011 census) within the Town's 139 square kilometre area. The Town of Oakville has the largest population, but the smallest geographical area of all municipalities in Halton Region.

Much of the Town's geography is built up with a vibrant downtown area, active industrial areas, and a mix of residential dwelling types. North of Dundas Street is primarily comprised of lands slated for greenfield development through the North Oakville East and West Secondary Plans. It is this area that will capture much of the population growth planned to the 2031 horizon (a projected increase to a population of 246,400). The remaining growth will be focused on several intensification areas, increasing the density in the built up areas. This growth will increase the demands on the fire department.

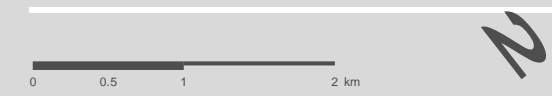


OAKVILLE

TOWN OF OAKVILLE FIRE MASTER PLAN

Fire Station Location Map FIGURE I

- Existing Fire Station
- Temporary Fire Station
- Freeway
- Ramp
- Arterial Road
- Collector Road
- Minor Road
- ▭ Municipal Boundary



MAP DRAWING INFORMATION:
THE TOWN OF OAKVILLE AND THE MNR

MAP CREATED BY: SMB
MAP CHECKED BY: SLC
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\dillon.ca\DILLON_DFS\Toronto\Toronto GIS\152058 - Oakville Fire Master Plan



PROJECT: 15-2058
STATUS: DRAFT
DATE: 9/8/2015

1.2 Previous Oakville Fire Department Studies

Fire Master Plans are typically developed as ten year plans, with updates completed at the five year horizon. The Town of Oakville has been diligent in keeping its plans up to date. Dillon Consulting Limited was retained in 2007 to complete a Fire Master Plan and in 2011 to complete an update of the 2007 plan. In 2014, Dillon was retained to update the fire response model. This indicates that the timing of the subject Fire Master Plan study is consistent with best practices for strategic municipal fire services planning.

1.3 Key Performance Indicators

Within the 2015 to 2018 Council Strategic Plan, there are several strategic goals listed for the Town of Oakville as a Corporation and five key areas of focus: good governance, environmental leadership, economic growth, fiscal sustainability, and outstanding services to residents. The completion and implementation of this Fire Master Plan is designed to implement these areas of focus where appropriate with respect to the fire department and the services it provides. Specifically, the Plan supports good governance, fiscal sustainability, and outstanding services to residents.

One way that the Town has been working towards its goal of accountability and good governance is through the development, tracking, and public availability of key performance indicators (KPIs). The performance indicator “online dashboard” through the Town’s website currently features interactive graphs of historical data illustrating development charges revenue, operating budget, and transit ridership.¹

As part of these strategic goals, and as described in an internal audit review document for Fire Prevention and Public Education, in 2007 the Town began performance based budgeting. The objective of this process is to be more accountable and ensure cost efficiency and effectiveness. As a result of this process, the Oakville Fire Department has internal key performance indicators in place. These performance indicators are used to track the effectiveness and progress of the department. Currently the KPIs are organized and unique to each division in the department. Within each division reviewed within this FMP, the KPI currently in place are listed and reviewed. Based on the recommendations and observations made for each division, additional KPIs or revisions to the existing KPIs are presented for consideration.

¹ <http://www.oakville.ca/townhall/performance-indicators.html>

1.4 Fire Master Plan Objective

The objective is to develop a comprehensive fire master plan that provides a strategic framework and recommended action plan. The FMP will be based on stakeholder engagement results, community needs resulting from the impacts of existing and future growth, as well as existing research, information, issues and strategies to ensure best practices are being followed or are recommended for adoption. The framework and action plan will assist Council in providing the level of fire protection services in the Town of Oakville needed to meet both the needs of the community and the FPPA requirements in an efficient and cost-effective manner.

1.5 Fire Master Plan Scope

The Fire Master Plan includes a review of all aspects of the Oakville Fire Department's operations. This includes recommendations for service level standards, staffing and apparatus deployment, non-suppression services and implementation strategies.

The full scope of the study includes:

- Use of best practices, industry standards and current legislation as the foundation;
- Review of background information, reports, documents (i.e. previous Fire Master Plans and the current draft of the Strategic Plan), maps, business plans and other fire department statistics;
- Assessment of station, staffing and apparatus implications of NFPA 1710 and Office of the Fire Marshal and Emergency Management (OFMEM) Public Fire Safety Guidelines (including Operational Planning: An Official Guide to Matching Resource Deployment and Risk);
- Consideration of population and employment growth impacts on department operations and service delivery, within the ten year plan horizon (2025) and to 2031;
- Review and consideration of all areas of the fire department (i.e. staffing, station location, facilities, impacts of traffic calming on response times, apparatus, vehicle and apparatus maintenance and replacement, other equipment, administration, training, mechanical, fire prevention, emergency planning, public education and technological needs);
- Benchmarking of the department's size, structure and operation costs against a municipal comparator group;
- Development of recommendations, financial implications and an implementation plan and timetable;
- Identification of growth and non-growth related needs of the fire department presented within the fire master plan and through consultation with Town Finance, Planning Services and Development staff, identification of costs of the master plan and a methodology to allocate growth-related capital costs between residential and non-residential users of the service (with regards to development charges);

- Assessment of the effects of existing and proposed road, traffic and transportation systems, raised crosswalks, and other physical traffic calming features, on emergency response times with specific attention to the cumulative effects of these features on service level standard for the fire department;
- Consideration of mutual, automatic aid and other service agreements with neighbouring municipalities; and,
- Engagement of stakeholders: Hold a community information open house and a “round table” meeting with community business and stakeholders to seek input from the community.

1.6 Fire Master Plan Structure

This FMP provides a complete review of the current operations of the Oakville Fire Department. This review is designed to assist Council in establishing key objectives for the department. The plan includes recommendations to address both short-term and long-term strategies for the municipality, consistent with the fire master planning process outlined within the Office of the Fire Marshal and Emergency Management, *Shaping Fire-Safe Communities Initiative*.

The Fire Master Plan is structured in 12 sections:

- Section 1.0 - Introduction
- Section 2.0 – Fire Master Plan Process Overview
- Section 3.0 – Community Risk Profile Summary
- Section 4.0 – Municipal Comparators Summary
- Section 5.0 – Administration Division
- Section 6.0 – Emergency Planning
- Section 7.0 – Fire Prevention Division
- Section 8.0 - Training Division
- Section 9.0 – Suppression Division
- Section 10.0 - Apparatus & Equipment / Fleet Review
- Section 11.0 – Communications & Technology Review
- Section 12.0 – Implementation Plan

2.0 Fire Master Plan Process Overview

Much local knowledge, experience, and context went into this Fire Master Plan including three areas that embody a foundational element to the fire master planning process: *Legislation*, *Public Fire Safety Guidelines*, and *Stakeholder Engagement*.

This section describes the relevant legislation, guidelines and the stakeholder engagement process that was undertaken to frame this Fire Master Plan in defining the needs and circumstances of the Town of Oakville. Additional performance measures, particularly National Fire Protection Association (NFPA) 1710, are described thoroughly in **Section 9.0 – Suppression Division**.

2.1 Legislation

All municipalities, whether they have volunteer, full-time, or composite fire services, are subject to provincial legislation. Key pieces of legislation impacting the delivery of fire protection services include the *Fire Prevention & Protection Act (1997)*, and the *Occupational Health and Safety Act, R.S.O. 1990 (OHSA)*.

2.1.1 Fire Prevention and Protection Act, 1997

Within the Province of Ontario the relevant legislation for the operation of a fire department is contained within the *Fire Protection and Prevention Act, 1997 (FPPA)*. While all legislation should be read and understood in its entirety, the following are applicable sections of the FPPA for reference purposes.

PART I DEFINITIONS

	1.(1) In this Act,
Definitions	<p>“fire chief” means a fire chief appointed under section 6 (1), (2) of (4); (“chef des pompiers”)</p> <p>“fire code” means the fire code established under Part IV; (“code de prevention des incendies”)</p> <p>“fire department” means a group of firefighters authorized to provide fire protection services by a municipality, group of municipalities or by an agreement made under section 3; (“service d’ incendie”)</p> <p>“Fire Marshal” means the Fire Marshal appointed under subsection 8 (1); (“commissaire des incendies”)</p> <p>“fire protection services” includes fire suppression, fire prevention, fire safety education, communication, training of persons involved in the</p>

**PART I
DEFINITIONS**

	<p>provisions of fire protection services, rescue and emergency services and the delivery of all those Services; (“services de protection contre les incendies”)</p> <p>“municipality” means the local municipality as defined in the Municipal Act, 2001; (“municipalite”)</p> <p>“prescribed” means prescribed by regulation (“prescript”)</p> <p>“regulation” means a regulation made under this Act; (“reglement”)</p> <p>“volunteer firefighter” means a firefighter who provides fire protection services either voluntarily or for a nominal consideration, honorarium, training or activity allowance; (“pompier volontaire”)</p>
Application of definition of firefighter	(3) The definition of firefighter in subsection (1) does not apply to Part IX. 1997, c. 4, s. 1 (2)
Automatic aid agreements	<p>(4) For the purposes of this Act, an automatic aid agreement means any agreement under which,</p> <p>(a) a municipality agrees to ensure the provision of an initial response to fires and rescues and emergencies that may occur in a part of another municipality where a fire department in the municipality is capable of responding more quickly than any fire department situated in the other municipality, or</p> <p>(b) a municipality agrees to ensure the provision of a supplemental response to fires, rescues and other emergencies that may occur in a part of another municipality where a fire department situated in the municipality is capable of providing the quickest supplemental response to fires, rescues and other emergencies occurring in the part of the other municipality. 1997, c. 4, s. 1 (4)</p>

**PART II
RESPONSIBILITY FOR FIRE PROTECTION SERVICES**

Municipal responsibilities	<p>2.(1) Every municipality shall</p> <p>(a) establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention, and</p> <p>(b) provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances.</p>
Services to be provided	<p>(3) In determining the form and content of the program that it must offer under clause</p> <p>(1)(a) and the other fire protection services that it may offer under clause (1)(b), a municipality may seek the advice of the Fire Marshal</p>

**PART I
DEFINITIONS**

Automatic aid agreements	(6) A municipality may enter into an automatic aid agreement to provide or receive the initial or supplemental response to fires, rescues and emergencies.
Review of municipal fire services	(7) The Fire Marshal may monitor and review the fire protection services provided by municipalities to ensure that municipalities have met their responsibilities under this section, and if the Fire Marshal is of the opinion that, as a result of a municipality failing to comply with its responsibilities under subsection (1), a serious threat to public safety exists in the municipality, he or she may make recommendations to the council of the municipality with respect to possible measures the municipality may take to remedy or reduce the threat to public safety.
Failure to provide services	(8) If a municipality fails to adhere to the recommendations made by the Fire Marshal under subsection (7) or to take any other measure that in the opinion of the Fire Marshal will remedy or reduce the threat to public safety, the Minister may recommend the Lieutenant Governor in Council that a regulation be made under subsection (9).
Regulation	(9) Upon the recommendation of the Minister, the Lieutenant Governor in council may make regulations establishing standards for fire protection services in municipalities and requiring municipalities to comply with the standards.
Fire departments	(1) A fire department shall provide fire suppression services and may provide other fire protection services in a municipality, group of municipalities or in territory without municipal organization. 1997, c. 4, s. 5 (1)
Same	(2) Subject to subsection (3), the council of a municipality may establish more than one fire department for the municipality. 1997, c. 4, s. 5 (2)
Exception	(3) The council of a municipality may not establish more than one fire department if, for a period of at least 12 months before the day this Act comes into force, fire protection services in the municipality were provided by a fire department composed exclusively of full-time firefighters. 1997, c. 4, s. 5 (3)
Same	(4) The councils of two or more municipalities may establish one or more fire departments for the municipalities. 1997, c. 4, s. 5 (4)
Fire chief, municipalities	6. (1) If a fire department is established for the whole or part of a municipality or for more than one municipality, the council of the municipality or the councils of the municipalities, as the case may be, shall appoint a fire chief for the fire department.

**PART I
DEFINITIONS**

Same	(2) The council of a municipality or the councils of two or more municipalities may appoint a fire chief for two or more fire departments.
Responsibility to council	(3) A fire chief is the person who is ultimately responsible to the council of a municipality that appointed him or her for the delivery of fire protection services
Powers of a fire chief	(5) The fire chief may exercise all powers assigned to him or her under this Act within the territorial limits of the municipality and within any other area in which the municipality has agreed to provide fire protection services, subject to any conditions specified in the agreement.

**PART III
FIRE MARSHAL**

Appointment of Fire Marshal	8 (1) There shall be a Fire Marshal who shall be appointed by the Lieutenant Governor in Council.
Powers of Fire Marshal	<p>9.(1) the Fire Marshal has the power,</p> <p>(a) to monitor, review and advise municipalities respecting the provision of fire protection services and to make recommendations to municipal councils for improving the efficiency and effectiveness of those services;</p> <p>(b) to issue directives to assistants to the Fire Marshal respecting matters relating to this Act and the regulations;</p> <p>(c) to advise and assist ministries and agencies of government respecting fire protection services and related matters;</p> <p>(d) to issue guidelines to municipalities respecting fire protection services and related Matters;</p> <p>(e) to co-operate with anybody or person interested in developing and promoting the principles and practices of fire protections services;</p> <p>(f) to issue long service awards to persons involved in the provision of fire protection services; and</p> <p>(g) to exercise such other powers as may be assigned under this Act or as may be necessary to perform any duties assigned under this Act.</p>
Duties of Fire Marshal	9.(2) It is the duty of the Fire Marshal,

PART I DEFINITIONS

- (a) to investigate the cause, origin and circumstances of any fire or of any explosion or condition that in opinion of the Fire Marshal might have caused a fire, explosion, loss of life, or damage to property;
- (b) to advise municipalities in the interpretation and enforcement of this Act and the regulations;
- (c) to provide information and advice on fire safety matters and fire protection matters by means of public meetings, newspaper articles, publications, electronic media and exhibitions and otherwise as the Fire Marshal considers available;
- (d) to develop training programs and evaluation systems for persons involved in the provision of fire protection services and to provide programs to improve practices relating to fire protection services;
- (e) to maintain and operate a central fire college;
- (f) to keep a record of every fire reported to the Fire Marshal with the facts, statistics and circumstances that are required under the Act;
- (g) to develop and maintain statistical records and conduct studies in respect of fire protection services; and
- (h) to perform such other duties as may be assigned to the Fire Marshal under this Act.

2.1.2 Occupational Health and Safety Act

The Occupational Health and Safety Act, R.S.O. 1990 requires every employer to, “take every precaution reasonable in the circumstances for the protection of the worker.” The OHS Act provides for the appointment of committees, and identifies the “Ontario Fire Services Section 21 Advisory Committee” as the advisory committee to the Minister of Labour with the role and responsibility to issue guidance notes to address firefighter-specific safety issues within Ontario.

Where 20 or more workers are regularly employed at a workplace, the OHS Act requires the establishment of a Joint Health and Safety Committee (JHSC). The committee must hold regular meetings including the provision of agendas and minutes.

Firefighter safety must be a high priority in considering all of the activities and services to be provided by a fire department. This must include the provision of department policies and procedures, or Departmental Policies (DPs) that are consistent with the direction of the OHS Section 21 Guidance Notes for the fire service.

2.2 Public Fire Safety Guidelines (PFSGs)

Within the Province of Ontario one of the key roles of the Office of the Fire Marshal and Emergency Management (OFMEM) is to develop Public Fire Safety Guidelines to assist municipalities in achieving their legislative responsibilities in providing the most effective and efficient level of fire protection services for their community based on local needs and circumstances.

2.2.1 Office of the Fire Marshal and Emergency Management, Ontario

As indicated within the FPPA, the duties of the Office of the Fire Marshal and Emergency Management include responsibilities to assist with the interpretation of the Act, to develop training and evaluation systems and enforcement of the Act and its regulations. One of these roles includes the review of compliance with the minimum requirements of a Community Fire Safety Program, which must include:

- A smoke alarm program with home escape planning;
- The distribution of fire safety education material to residents/occupants;
- Inspections upon complaint or when requested to assist with code compliance (including any necessary code enforcement); and,
- A simplified risk assessment.

The OFMEM has developed Public Fire Safety Guidelines (PFSGs) to assist municipalities in making informed decisions to determine local “needs and circumstances” and achieve compliance with the FPPA.

It is important to note that the OFMEM began a comprehensive review of all Public Fire Safety Guidelines in January 2015. The following information is presented on the OFMEM website regarding this review:

“Please be advised that the Office of the Fire Marshal and Emergency Management (OFMEM) has commenced a comprehensive review of all OFMEM Public Fire Safety Guidelines (PFSGs). The OFMEM anticipates releasing updated guidelines by the end of 2015. Pending the release of the new guidelines, the existing guidelines will remain on our website for reference. In addition, the OFMEM recommends municipalities access other resources from our website such as Technical Guidelines or Communiqués.”

With the Town’s approval, Dillon Consulting Limited continued the completion of this FMP utilizing the current PFSGs, recognizing the current review process is underway.

2.2.2 PFSG 01-02-01 “Comprehensive Fire Safety Effectiveness Model”

The Comprehensive Fire Safety Effectiveness Model (CFSEM) (PFSG 01-02-01, attached as **Appendix A**) was developed by the OFMEM to assist communities in evaluating their level of fire safety. The model recognizes that there is more to providing fire protection services than just building fire stations, purchasing equipment and deploying firefighters. The Comprehensive Fire Safety Effectiveness Model (CFSEM) confirms that the fire service within Ontario is currently experiencing an evolution of significant change. In response to increasing public expectations and diminishing financial resources municipalities are being forced to critically assess their fire protection needs in identifying new and innovative ways to providing the most cost effective fire protection services.

The following is an excerpt from PFSG 01-02-01:

“The provision of fire protection in Ontario is a municipal responsibility. The level and amount of fire protection provided is determined by the residents of the community through decisions made by and support provided by the local municipal council. Due to a wide variety of factors, the Ontario fire service finds itself in a period of change. Increased community expectations coupled with reduced financial resources are forcing all communities to critically assess their fire protection needs and to develop new and innovative ways of providing the most cost effective level of service. A refocus on fire protection priorities is providing progressive fire departments and communities throughout Ontario with an exciting opportunity to enhance community fire safety. There is more to providing fire protection than trucks, stations, firefighters and equipment.”

The CFSEM identifies that every municipality should be guided by a master or strategic plan covering a planning horizon of five to ten years. Shifting from the traditional focus of hazard identification and fire suppression response the CFSEM recognizes more comprehensive risk assessment and optimizing the use of fire prevention and control systems are part of a paradigms shift within the fire service.

Figure 2 displays each of the eight factors which make up the comprehensive fire safety effectiveness model. Although the chart is divided equally, each factor will in reality contribute differently to the total level of fire protection provided to a community.

FIGURE 2: FACTORS IN A COMPREHENSIVE FIRE SAFETY EFFECTIVENESS MODEL

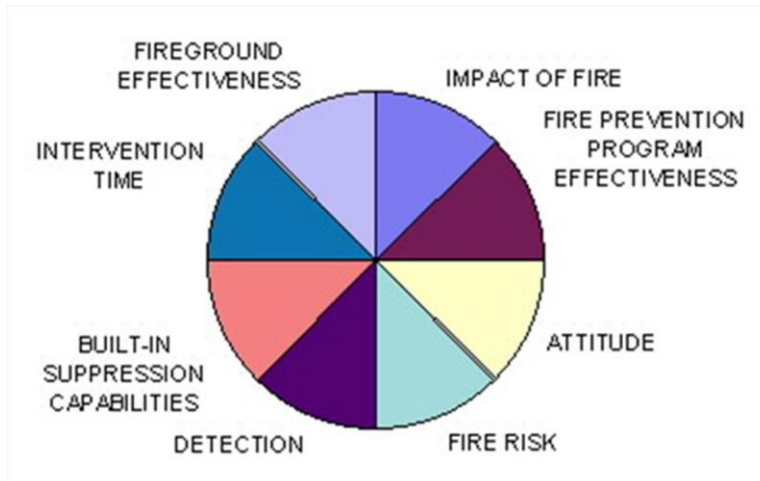
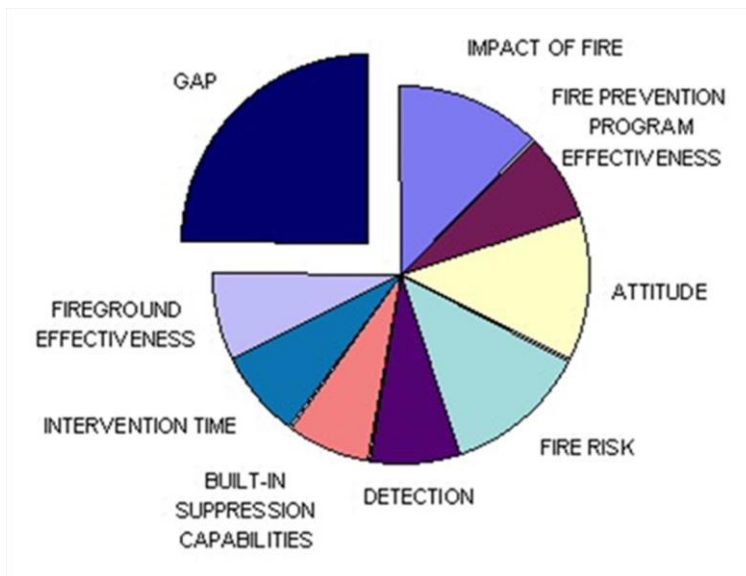


Figure 3 shows how the comprehensive model can be applied to a typical fire department. The "gap" depicts the difference between the existing level of protection and the ideal.

Utilizing the framework of the CFSEM and the fire protection service assessment processes developed by the OFMEM, the primary objective of this FMP is to identify, through evidence-based analysis, the presence of any existing gaps in the current delivery of fire protection services within the Town of Oakville. The FMP also identifies where options for optimizing the level of fire protection services may be available.

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FIGURE 3: COMPREHENSIVE MODEL APPLIED TO A TYPICAL FIRE DEPARTMENT



In response to any existing gaps identified this FMP recommends strategies that are intended to optimize the use of the “three lines of defence” including:

- I. Public Education and Prevention**
- II. Fire Safety Standards and Enforcement**
- III. Emergency Response**

A further description of each line of defence includes:

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; and,

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 CFSEM emphasizes the importance and value of preventing a fire. This is important from both an economic and public safety perspective. At the same time, the CFSEM ensures an appropriate level of health and safety for firefighters. The model also recognizes that developing programs and providing resources to implement the first line of defence (a proactive public education and fire prevention program) can be the most effective strategy to reduce and potentially minimize the need for the other lines of defence.

2.2.3

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

PFSG 00-00-01 (attached as **Appendix B**) provides an understanding of the municipal and provincial roles and responsibilities in terms of delivering fire protection services at the local level. The following is an excerpt from the background section of this guideline that states the following:

“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.”

As referenced in this document, PFSGs represent one component of the strategy that the Ministry of Community Safety and Correctional Services proposes for public fire protection in Ontario. The strategy referenced in PFSG 00-00-01 includes:

- ✓ *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.*

2.2.4 PFSG 03-02-13 “Master Planning Process for Fire Protection Services”

PFSG 03-02-13 (attached as **Appendix C**) outlines the process to develop a Fire Master Plan as the strategic blueprint for the delivery of fire protection services that address the “*local needs and circumstances*” as defined by the FPPA, and in determining the level of fire protection services the community can afford.

Examples of the guiding principles of PFSG 03-02-13 that are applicable to the Town of Oakville include the following:

- The residents of any community are entitled to the most effective, efficient and safe fire services possible; and,
- Those responsible must work within these parameters in making recommendations for improving municipal fire services.

2.2.5 PFSG 01-01-01 “Fire Protection Review Process”

Analyzing local needs and circumstances is a core component of the fire master planning process. PFSG 01-01-01 (attached as **Appendix D**) identifies the three main issues that define local circumstances including the guidelines to be utilized:

- ✓ *PFSG 02-03-01 “Economic Circumstances”* (attached as **Appendix E**)
- ✓ *PFSG 02-02-03 “Fire Risk Assessment”* (attached as **Appendix F**)

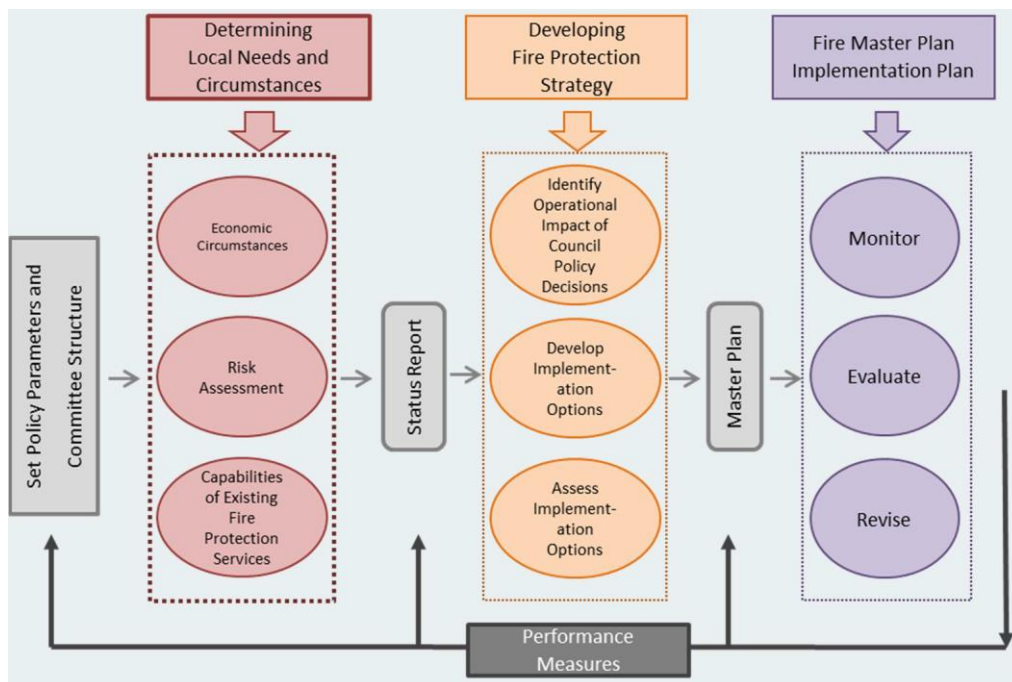
- ✓ PFSG 02-04-01 “Capabilities of Existing Fire Protection Services” (attached as **Appendix G**)

PFSG 01-01-01 describes a number of factors to be considered during the review process including:

- ✓ *The overall objective of any fire protection program is to provide the optimum level of protection to the community, in keeping with local needs and circumstances;*
- ✓ *Extensive research has demonstrated that there are a variety of factors that will have an impact on the fire department's capacity to fulfill this objective;*
- ✓ *Conversely, there are many different options that a municipality may pursue to improve the efficiency and effectiveness of its fire protection system;*
- ✓ *Local circumstances will have a profound effect on which factors are most important for any one municipality, and what options are available for its fire protection system;*
- ✓ *Selecting among these options is an extremely complex task; and,*
- ✓ *Success will require a combination of specialized expertise in fire protection, and a thorough appreciation of your municipality's economic, social and political circumstances.*

Figure 4 reflects the framework for developing a plan for optimizing public fire safety.

FIGURE 4: FRAMEWORK FOR OPTIMIZING FIRE SAFETY



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

PFSG 04-08-10 (attached as **Appendix H**) was developed by the OFMEM to assist municipalities in meeting their responsibilities under Section 2. (1) (b) “provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances” of the FPPA.

As stated by the OFMEM in PFSG “04-08-10 Operational Planning: An Official Guide to Matching Resource Deployment and Risk:

“The overall public safety objective of a municipality is to provide the community with an optimal level of fire protection. 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.”

2.2.7 PFSG 04-40-03 “Selection of Appropriate Fire Prevention Programs”

PFSG 04-40-03 (attached as **Appendix I**) identifies the four minimum requirements of the 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” including:

- ✓ Simplified risk assessment;
- ✓ A smoke alarm program;
- ✓ Fire safety education material distributed to residents/occupants; and,
- ✓ Inspections upon complaint or when requested to assist with code compliance

2.3 Stakeholder Engagement Process

The process of developing a Fire Master Plan for the Town of Oakville involved various consultation activities. Effective communication and consultation with stakeholders is essential to the success of the plan. It is essential for three reasons. First, information is collected on local needs and circumstances which feed directly into this FMP. The second reason is to ensure those responsible for implementing and affected by this Fire Master Plan understand the basis on which certain decisions are made and why particular actions are required. Thirdly, it is an opportunity to obtain feedback from the public, including key stakeholders, as well as to educate the public stakeholders on fire prevention and the fire master planning process.

2.3.1 Project Teams

To provide input and feedback into the FMP, the Town assembled a Core Project Team and a Project Support Team. The three members of the Core Project Team were: the Commissioner of Community Services, the Fire Chief, and the Deputy Fire Chief – Operations.

The Project Support Team was comprised of: executive members of the Oakville Professional Firefighters Association (OPFA); Deputy Fire Chief – Emergency Management and Special Projects; and the Deputy Fire Chief – Training and Prevention.

2.3.2 Project Meetings

Throughout this study, the Dillon team met with the both the Core Project Team and the Project Support Team to seek input and provide feedback to the FMP. The following meetings took place:

- Project Meeting 1 - Project Initiation: June 23, 2015
- Project Meeting 2 - Preliminary Findings: September 10, 2015

When necessary throughout the project, informal calls and email communication took place. The Draft report will be presented to the Project Team and the Final Report will be presented to Council.

2.3.3 Internal Stakeholder Consultation

Stakeholders can provide valuable input at each step of the process, providing information about context and background from different perspectives. This helps to identify issues and needs associated with the fire department. As well it provides information that is used for study analysis and recommendation phases. Engaging stakeholders helps ensure that multiple perspectives can be brought to the fire master planning process.

2.3.3.1 Interviews with Key Staff

Information and feedback was collected from key staff members via interviews held following the project initiation meeting. This was an opportunity to gather background information for the environmental scan and collect input on strengths, weaknesses (challenges), opportunities, and threats from the point of view of these key staff. The following key staff and stakeholders were interviewed:

- Commissioner of Community Services;
- Fire Chief;
- Deputy Fire Chief – Operations;
- Four executive members of the Oakville Professional Firefighters Association;
- Deputy Fire Chief – Training and Prevention;
- Deputy Fire Chief – Emergency Management & Special Projects;
- Chief Fire Prevention Officer;

- Chief Training Officer;
- Administrative Assistant (OFD);
- Planning Services staff;
- Fleet Maintenance (OFD); and,
- Deputy Treasurer (Finance Department).

Consultation of key stakeholders was an essential stage in developing strategic goals and objectives for the master fire planning process.

2.3.4 External Stakeholder Consultation

To complement and support the development of this Fire Master Plan (FMP), external stakeholder engagement was conducted. In partnership with and the Town of Oakville’s Strategy, Policy and Communications Department and the Oakville Fire Department (OFD), an external stakeholder engagement plan was developed based on the Town’s Engagement Guide. The consultation was conducted in line with the Town’s approach to public engagement in order to gain perspective and input from the community members through a variety of methods.

As part of external stakeholder engagement for this FMP, there were two audiences who were consulted with: the general public and key external stakeholders. “General public” was defined as any resident of the Town of Oakville. The general public was consulted through the use of a community information open house as well as an online survey. The online survey saw approximately twenty-two respondents. Respondents seemed to be fairly aware of and satisfied with the services provided by the OFD. Based on the results, there does appear to be an opportunity for public education in regards to carbon monoxide (CO) alarm requirements, home escape plans, and emergency preparedness.

“Key external stakeholders” were defined as those representatives from community groups, businesses, institutions, or other groups that would have direct and regular contact with the OFD. Such stakeholders could participate through an online survey, a telephone survey, or a focus group. There were a total of fourteen key external stakeholders who participated. The majority of respondents were satisfied with the services provided by the OFD, but it was identified that enhanced hands-on training and increased public education would be of a mutual benefit for the groups and the OFD.

A more detailed description of the methodology as well as the engagement results can be found in **Appendix J**.

3.1 COMMUNITY RISK PROFILE SUMMARY

The Community Risk Profile, based on the OFMEM's Fire Risk Sub-Model helps to define the level of risk in a community and establish local needs and circumstances per the FPPA. The fire risk within a community is a foundational element to the recommendations within this Fire Master Plan. The complete Community Risk Profile can be found in **Appendix K**. This section provides a summary of the community risk based around the key factors that influence potential fire scenarios as identified by the OFMEM Fire-Risk Sub-Model:

- Property Stock
- Building Height and Area
- Building Age and Construction
- Building Exposures
- Demographic Profile
- Geography/Topography/Road Infrastructure
- Past Fire Loss Statistics
- Fuel Load

The need to consider and assess community-specific risks is an area receiving increased focus within the fire protection industry in North America. A Community Risk Profile (CRP) is a useful tool to consider how the characteristics of a community contribute to and impact potential fire risk scenarios and in being proactive in understanding where fire prevention and public education should be focused within a community.

3.1 Property Stock

The Ontario Building Code (OBC) categorizes buildings by their major occupancy classifications. Each classification has inherent definitions that distinguish it from other occupancy classifications. The analysis of the Property Stock Profile for the Town of Oakville confirms that the largest percentage of major occupancies (78.6%) is Group C – Residential. Significant priority should be given to developing a Fire Master Plan that reflects the risks associated with this occupancy category. A key element in mitigating residential risks is maximizing the use of all three lines of defence. The second most prevalent occupancy category in the Town of Oakville is Group D/E-Commercial occupancies at 18.3% of the Town's total building stock. This is consistent with similar large urban centers. The Town's other occupancies include Group F – Industrial (1.9%), Group A – Assembly (1.1%), and Group B – Institutional (0.05%).

3.2 Building Height & Area

Buildings that are taller in height, or contain a large amount of square footage (footprint) can have a greater fire loss risk and life safety concern. The analysis of the buildings within the Town, with regards to height and area, identified approximately 75 buildings in Oakville which have six or more storeys.

Additionally, Oakville has approximately 18.1 million square feet of industrial inventory and 2.9 million square feet of commercial inventory primarily in the Queen Elizabeth Way (QEW) East and QEW West areas.² The observations of this section are consistent with the need to prioritize a pro-active fire inspection and compliance program.

3.3 Building Age and Construction

Age and construction of a building can also have an impact on fuel load given that older buildings likely have a larger volume of combustible construction such as wood framing rather than newer construction utilizing concrete and steel products. The current building stock of the Town is representative of a large urban settlement area that has grown significantly over the past century to the current mixed use urban community.

Residential single-detached housing units represent 63.2% of the 62,405 residential dwelling structures. The Town of Oakville has 34.8% of the residential building stock that was built prior to adoption of the Ontario Fire Code in 1981. Buildings within the Old Oakville, First and Second Street, Trafalgar Road, and Downtown Oakville Heritage Conservation Districts represent the highest fire loss risk due to age and construction.

3.4 Building Exposures

Closely spaced buildings, typical of historic downtown core areas, and newer infill construction, have a higher risk of a fire propagating. The close proximity of buildings can also impede firefighting operations due to the limited access for firefighters and equipment. As mentioned, most of the existing housing stock in Oakville (65.2%) was constructed after the adoption of the fire code. The Town of Oakville has some building exposure fire risk due to heritage districts as well as intensification in growth areas.

² Source: "Economic Development Annual Report 2014." Town of Oakville, 2014. Web. 8 January 2016. <<http://www.oakville.ca/assets/general%20-%20business/ecdev-annualreport.pdf>>.

3.5 Demographic Profile

Assessing demographic factors in relation to provincial statistics is an effective tool in understanding where there may be vulnerable groups in terms of fire or life risk, or barriers such as language that could affect communication of public education programs.

The demographic analysis of Oakville indicates that the percentage of residents 65 years old and above is 12.9%, and the population of individuals 14 years old and under is 19.6%. Optimizing public education targeted both at children and seniors should be considered a priority for the Town.

In addition to its residents, Oakville has a fluctuating population of tourists and students. Each year Oakville is visited by approximately 1.5 million tourists and Sheridan College draws in roughly 8,000 students. Understanding the distribution of vulnerable individuals/occupancies is critical to a fire department. The Town identified 48 residences in Oakville as vulnerable occupancies and approximately 2,830 residents (1.55% of Oakville's population) as vulnerable persons.

3.6 Geography/Topography/Road Infrastructure

The majority of risks associated with the geography, topography and road infrastructure within the Town are a result of the large overall size of the Town and the expected growth. Longer response times from the fire stations can occur in newly developed areas, and this requires pre-planning and monitoring of the Town's growth. The Town is expected to focus growth north of Dundas Street (in a large greenfield area), and through intensification of the Midtown Oakville, Uptown Core, Palermo Village, Kerr Village, Bronte Village, and Downtown Oakville areas. As a result the OFD needs to be prepared for significant amounts of growth in the next ten years.

The Town is well served and connected by the road network which is a significant source of emergency calls (including motor vehicle collisions and vehicle fires). This emphasizes the need for quick and effective automobile extrication responses. The Oakville Fire Department recognizes this need and prides itself on having an internationally distinguished Auto Extrication Team (AET).

3.7 Past Fire Loss Statistics

Identifying and understanding trends through the analysis of historical data provides valuable insight into community-specific trends. Assessing the key factors of life safety risk and fire risk in relation to provincial statistics provides a foundation for evaluating where specific programs or services may be necessary.

Based on the historical data for the period 2009 to 2013 the Town of Oakville experienced the highest rate of fires within the Group C - Residential occupancies. This result is consistent with that of the provincial profile. Oakville is also characterized as having a greater proportion of industrial fires than the provincial average; however, this is likely due to its strong industrial presence.

Misuse of ignition source (26.9%) and mechanical/electrical failure (19.7%) were the leading causes for fires during this period. Cooking equipment (20.2%), miscellaneous (18.6%), open flame tools/smokers articles (13.9%) and undetermined (11.1%) represented the top four leading ignition sources of the 361 fires reported during this period.

Enhancing the first two lines of defence, including pro-active prevention and education programs, targeted at the areas identified within this Community Risk Profile, should be considered a priority.

3.8 Fuel Load

Fuel load typically refers to the amount and nature of combustible content and materials within a building³. A number of factors contribute to fuel load including the number of floors, building footprint, and building use. High fuels loads pose a significant fire loss risk, as they can increase the potential intensity and duration of a fire. Examples of fuel load risks in Oakville include “big box” warehouse stores, shopping complexes, recycling facilities, and automotive manufacturers.

The Heritage Conservation Areas also present a fuel load concern from the materials used to construct the buildings and the exposure to other buildings. Regular fire prevention inspection cycles and strategies to enforce continued compliance with the Ontario Fire Code (OFC) are considered as best practices to achieving the legislative responsibilities of the municipality and providing an effective fire protection program to address fuel load risks.

3.9 Community Growth & Development

The population of Town of Oakville is anticipated to grow at a rate of 1.58% (compounding annually) from 2006 to 2031, to a 2031 population of 246,400. This growth is expected to occur through greenfield development in North Oakville and through intensification in the existing built up area.

³ Source: “Comprehensive Fire Safety Effectiveness Model.” OFM, 2015. Web. 8 January 2016. http://www.mcscs.jus.gov.on.ca/english/FireMarshal/FireServiceResources/ComprehensiveFireSafetyEffectivenessModel/FireRiskSub-Model/Fire_risk_submodel.html

4.1 MUNICIPAL COMPARATORS SUMMARY

Benchmarking and key performance indicators are important to the Town of Oakville as a means to ensure that Town residents are receiving the most efficient and effective service possible within the fiscal realities of the municipality. However, within the fire service it can be a challenge to successfully compare and benchmark municipal performance to peers comparators. An industry-wide challenge is consistency in what and how departments collect performance data, as well as access to that information. Without consistent metrics and a standard data source, peer comparisons are very difficult. This challenge has recently been acknowledged by the Canadian Association of Fire Chiefs (CAFC) and the federal agency Defence Research & Development Canada (DRDC). To work towards a solution, the DRDC announced at the CAFC Conference in September 2015, that a three-year pilot project will be launched to develop a National Fire Information Database.

Until such time that there is a comprehensive database, desktop review and surveys of fire departments will need to be utilized to establish municipal peer comparisons. As part of this FMP, such an exercise was undertaken to underscore the Town and OFD's commitment to performance benchmarking as a part of business process evaluation and decision making.

After first establishing and describing the basic traits of the municipalities as seen in **Table 1**, seven performance indicators were analyzed:

- Fire department operating budget (requested by OFD);
- Fire department operating budget per capita;
- Fire department operating budget per dwelling unit (requested by OFD);
- Full-time staff per capita (requested by OFD);
- Fire prevention staff per capita;
- Fire suppression staff per capita; and,
- Fire suppression staff per training staff.

Additional research was conducted to inform and provide context for these indicators.

Desktop research in addition to the OFMEM "Summary of Key Facts and Fire Loss" was the initial data source used to research these indicators in order to identify the list of comparable communities utilized within this report. Following this initial process contact was then made with each fire department to confirm the OFMEM information and seek further information.

The contextual data collected included:

- Department Type;
- Number of Stations;
- Organizational structure, including total staffing including and staffing by division; and
- Operating budget; and,
- Minimum staffing.

The initial sources of data for this analysis were web-based research and information provided by the Brantford Fire Department. The initial findings were supplemented with information gleaned from email and phone interviews with selected fire departments/services. In some cases fire departments could not be reached for comment.

The peer comparators assessment is included in **Appendix L**.

TABLE 1: MUNICIPAL COMPARATORS

Municipality	Population (2011)	Area (km ²)	Population Density (people/km ²)	Population Growth (2006-2011)	Dwellings (2011)	Dwellings Growth (2006-2011)
Oakville	182,520	139	1314.2	10.2%	62,412	10.4%
Mississauga	713,443	292.4	2439.9	6.7%	234,582	9.2%
Hamilton	519,949	1117.2	465.4	3.1%	203,806	4.8%
Vaughan	288,301	273.5	1,054.0	20.7%	86,063	23.8%
Richmond Hill	185,541	101	1837.9	14.0%	58,651	15.0%
Burlington	175,779	186	946.8	6.9%	68,779	8.9%
Greater/Grand Sudbury	160,274	3227	49.7	1.5%	67,598	4.1%
Oshawa	149,607	146	1027.0	5.7%	58,797	7.1%
Barrie	135,711	77	1753.6	5.7%	49,943	7.3%
Aurora and Newmarket (Central York Fire Services)	133,181	88	1511.5	9.2%	45,100	10.7%
St. Catharines	131,400	96	1367.2	-0.4%	55,419	1.3%
Cambridge	126,748	113	1121.7	5.3%	46,460	7.4%
Kingston	123,363	451	273.4	5.3%	52,413	7.3%
Whitby	122,022	146	832.7	9.7%	41,021	10.2%
Guelph	121,688	87	1395.5	5.9%	48,115	7.6%
Ajax	109,600	67	1634.1	21.6%	35,038	22.4%
Average	211,195	413	1189.0	8.2%	75,887	9.8%

(Source: Statistics Canada Municipal Census Profiles 2011)