Appendix C

Fire Master Plan

Final Report
2024

OAKVILLE

OAKVILLE FIRE DEPT AVANCEZ

Table of Contents

Figures

Tables

Appendices

Acronyms, Abbreviations, Definitions

ACFPO	Assistant Chief Fire Prevention Officer
ACTO	Assistant Chief Training Officer
AHJ	Authority Having Jurisdiction
ANSI	American National Standards Institute
AS&E	Academic Standards and Evaluation
AVL	Automatic Vehicle Location
BCA	Building Condition Assessments
BCIN	Building Code Identification Number
BEM	Basic Emergency Management
CACC	Central Ambulance Communications Centre
CAD	Computer Aided Dispatch
CAFC	Canadian Association of Fire Chiefs
CBRN	Chemical, Biological, Radiological or Nuclear
CEMC	Community Emergency Management Coordinator
CFAI	Commission on Fire Accreditation International
CFPO	Chief Fire Prevention Officer
CFSEM	Comprehensive Fire Safety Effectiveness Model
CI	Critical Infrastructure
CIS	Corporate Information System
CPC	Commission on Professional Credentialing
CPSE	Centre for Public Safety Excellence

CRA	Community Risk Assessment
CREST	Communication Resource Exchange Support Team
CRRP	Community Risk Reduction Plan
CRTC	Canadian Radio-television and Telecommunications Commission
CTM	Critical Task Matrix
CTO	Chief Training Officer
CUPE	Canadian Union of Public Employees
e.g.	exempli gratia, meaning “example”
E&R By-Law	Establishing and Regulating By-law
EOC	Emergency Operations Centre
EMCPA	Emergency Management and Civil Protection Act
EMO	Emergency Management Ontario
ERFs	Emergency Response Facilities
ERP	Emergency Response Plan
ERRS	Emergency Response and Responder Safety
ERUs	Emergency Response Units
EV	Electric Vehicle
EVT	Emergency Vehicle Technician
FCI	Facility Condition Index
FCM	Facility Construction Management
FF	Firefighter
FMP	Fire Master Plan

FOI	Freedom of Information
FPO	Fire Prevention Officer
FPPA	Fire Protection and Prevention Act
FSP	Fire Safety Plan
FTE	Full-Time Equivalent
FUS	Fire Underwriters Survey ™
GIS	Geographic Information Systems
GTA	Greater Toronto Area
HIRA	Hazard Identification and Risk Assessment
HMCC	Halton Multicultural Council Connections
HRPD	Halton Regional Police Department
HRPS	Halton Region Paramedic Services
IAFF	International Association of Firefighters
IC	Incident Command
IDEA	Inclusion, Diversity, Equity, and Accessibility
i.e.	id est, meaning “in essence”
IFSAC	International Fire Service Accreditation Council
IMS	Incident Management Systems
JPR	Job Performance Requirements
K	thousand
km	kilometre
KPI	Key Performance Indicators

LEED	Leadership in Energy and Environmental Design
LMS	Learning Management System
m	metre
M	million
MAP	Mutual Aid Plan
MECG	Municipal Emergency Control Group
MOU	Memorandum of Understanding
MPAC	Municipal Property Assessment Corporation
MPDS	Medical Priority Dispatch System
MTO	Ministry of Transportation
MW	Megawatt
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
OAFC	Ontario Association of Fire Chiefs
OBC	Ontario Building Code
OFC	Ontario Fire Code
OFD	Oakville Fire Department
OFMEM	Office of the Fire Marshal and Emergency Management
OFM	Office of the Fire Marshal
OFSS	Ontario Fire Services Standards
OHSA	Occupational Health and Safety Act
OP	Official Plan

OPFFA	Oakville Professional Fire Fighters' Association
O. Reg.	Ontario Regulation
OSTI	On-Shift Training Instructors
PC	Platoon Chief
PCOS	Purchasing Card Operating System
PEO	Public Education Officers
PEOC	Provincial Emergency Operations Centre
PFSG	Public Fire Safety Guideline
PHEV	Plug-in Hybrid Electric Vehicle
PIARs	Post Incident Analysis Reviews
PPE	Personal Protective Equipment
PTSD	Post-Traumatic Stress Disorder
QEW	Queen Elizabeth Way
RFP	Request for Proposal
RMS	records management software
ROP	Region of Halton Official Plan
RTC	Regional Training Centre
RWPS	Region of Waterloo Paramedic Services
SCBA	Self-Contained Breathing Apparatus
SGA	Strategic Growth Areas
SIR	Standard Incident Reporting
SMT	Senior Management Team

SOG	Standard Operational Guideline
SOP	Standard Operating Procedures
TG	Technical Guideline
TO	Training Officer
Town	Town of Oakville
ULC	Underwriters Laboratory of Canada
US	United States
UTV	Utility Task Vehicle
VO	Vulnerable Occupancy
VON	Victorian Order of Nurses
WSIB	Workplace Safety and Insurance Board

Executive Summary

The Town of Oakville prepares master plans to build on the goals and policies from the Official Plan. Oakville's master plans are guided by Council's long-term strategy to define specific medium-range plans, such as fire and emergency services.

The Town's master plans identify objectives, strategies, and actions to be completed over a set period and help guide Council decisions. In addition to providing a set of planned actions, master plans also consider ways to address several key corporate objectives. These objectives are Asset Management, Climate Action, Technology and Data Management Opportunities, Inclusion, Diversity, Equity, and Accessibility (IDEA), and People Plan.

In Ontario, the fire master planning process is intended to provide the members of a municipal Council, and fire department senior staff, with a strategic planning framework to guide the delivery of fire protection services within their community over a five-to-ten-year horizon. The proposed framework presented within this Fire Master Plan (FMP) report has considered the applicable legislation, including the Fire Protection and Prevention Act, 1997 (FPPA), Occupational Health and Safety Act (OHSA), R.S.O. 1990 and the more recently adopted Ontario Regulation (O. Reg.) 378/18 – Community Risk Assessment and O. Reg. 343/22 – Firefighter Certification. The new O. Reg. 378/18 requires that every municipality in Ontario develop a Community Risk Assessment (CRA) prior to July 1, 2024, and use it to inform decisions about the provision of fire protection services. A Community Risk Assessment was prepared for the Town of Oakville, and the findings were applied to the study analyses as part of the fire master planning process. Consistent with the regulation, this CRA should be reviewed annually and updated every five years or as needed.

The analysis and methodology presented within this FMP has also been informed by current industry best practices including the fire protection standards authored by the National Fire Protection Association (NFPA) and the Public Fire Safety Guidelines (PFSGs) authored by the Office of the Fire Marshal (OFM). The Oakville Fire Department has successfully completed and implemented Fire Master Plans for decades. Though general FMP processes have not changed, significant benefit is realized through the strategic foundational requirements of O. Reg 378/18 Community Risk Assessment, which

provides individual focus for the Town. Through growth and development, if the Oakville Fire Department does not grow in staffing and stations as outlined in the FMP, the level of service will decline beyond today's current standards.

Under the FPPA s. 6(3) the fire chief remains accountable directly and individually to council for all aspects of fire safety and the delivery of fire protection services within the municipality. The FPPA requires that a municipality "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"[1]. With the introduction of O. Reg. 378/18 municipalities are now required to use the findings of the CRA to identify and describe the local needs and circumstances as identified community risks and key findings to inform decisions about the provision of fire protection services. The CRA includes an analysis of nine mandatory risk profiles:

1. Geographic Profile;
2. Building Stock Profile;
3. Critical Infrastructure Profile;
4. Demographic Profile;
5. Public Safety and Response Profile;
6. Community Services Profile;
7. Hazard Profile;
8. Economic Profile; and
9. Past Loss and Event History Profile.

To further assist Council in the decision-making process the framework presented within this FMP proposes the adoption of the following fire strategic goals:

1. The Town of Oakville is committed to the use of its Community Risk Assessment, as required by O. Reg. 378/18, as a fire strategic goal to assess the fire safety risks within the community as the basis for developing clear goals and objectives for all fire protection services provided by the Oakville Fire Department.

[1] Fire Protection and Prevention Act, 1997, Part II Responsibilities for Fire Protection Services, Municipal responsibilities, 2. (1) (a) (b).

2. The Town of Oakville is committed to the optimization of the first two lines of defence, including the delivery of public education and fire prevention programs, and the use of fire safety standards and fire code enforcement as a fire strategic goal for the Oakville Fire Department in providing a comprehensive fire protection and risk-reduction program within the community.
3. The Town of Oakville will prioritize strategies that support continuous improvement in the delivery of sustainable fire protection services that provide the most effective and efficient level of services resulting in the best value for the community.
4. Town of Oakville supports the delivery of fire protection services required to meet the needs and circumstances of planned future community growth and intensification.

The proposed fire strategic goals align with the Ontario Fire Marshal's (OFM) 'Comprehensive Fire Safety Effectiveness Model' (CFSEM) that recognizes there are steps that can be taken to reduce the risk of a fire, including the probability of a fire occurring and the consequence of that fire, through optimization of the 'three lines of defence' fire protection model.

The CFSEM prioritizes public fire safety education as the 'first line of defence' in mitigating and/or preventing a fire. The 'second line of defence' prioritizes the use of fire safety standards and enforcement to proactively introduce more complex risk reduction and risk mitigation strategies to reduce the probability and consequences of a fire. The 'third line of defence' refers to emergency response services, including fire suppression capabilities. In our view, the provision of fire suppression service is the "fail safe" in the event that the first two lines of defence are unable prevent fire and/or emergency response in an all-hazards approach.

As required by the new O. Reg. 378/18 – Community Risk Assessments the analysis and recommendations included in this FMP have been informed by the 'identified risks' and 'key findings' presented within the new CRA. In our view this strategy provides a unique opportunity for the Oakville Fire Department (OFD) to enhance its existing services, where applicable, and/or identify needs and opportunities for new services to further prioritize community fire services-related risk reduction. At a minimum, maintaining the current levels of service and depth of coverage in emergency response for all hazards

have been identified and focused throughout the Fire Master Plan and Community Risk Assessment.

The analyses and findings within this FMP have also considered the impacts of the new O. Reg. 343/22 – Firefighter Certification that will require all OFD staff to be certified to the applicable National Fire Protection Association Professional Qualifications (NFPA Pro-Qual) standards over the next four to six years. This FMP provides recommendations to support the OFD's path to attaining compliance with this new regulation and the department's role as a Regional Training Centre (RTC) in the Province, including administrative support, additional training staff resources and appropriate training facilities.

The proposed 'fire strategic goals' also align with the Commission on Fire Accreditation International (CFAI) accreditation system, which is recognized as an industry best practice in North America. The CFAI strategy promotes ongoing 'continuous improvement.' The analysis and findings within this FMP supports this an applicable strategic apporach (Fire Strategic Goal 3) for the Town of Oakville and its fire department. The Oakville Fire Department is preparing to initiate the CFAI accreditation process. The FMP project was proactively scoped to align the development of the Community Risk Assessment and FMP as supporting documents to assist OFD in preparing the Standards of Cover and Risk Assessment requirements of the accreditation process. The implementation of the CPSE accreditation process will require support and resourcing for the OFD.

The analysis of the department's current fire suppression (firefighting/emergency response) capabilities considers the existing conditions and locations of the fire stations and the current fire suppression capabilities in comparison to the NFPA fire suppression performance measures. There is a significant focus on future planned community growth, development and intensification and the projected resulting needs from a fire services perspective, including the analysis of future fire stations, staffing and apparatus needs, and maintaining existing levels of service. This FMP includes recommendations and strategies to further enhance the department's emergency response (fire suppression) capabilities in response to fire-related risks, and future community growth and intensification.

This FMP includes a comprehensive list of proposed recommendations to enhance the existing fire protection services provided by the OFD and respond to the future needs of the growing community. The proposed recommendations also respond to the requirements of the new Community Risk Assessment and Firefighter Certification Regulations. The recommendations are separated into Recommendations and Operational Recommendations. Recommendations require consideration and approval as they relate to a potential operating or capital financing impact or inform a municipal policy decision, including the setting of a municipal service level or where further direction to corporate staff may be needed. Operational Recommendations can be administered and implemented by the Fire Chief through the authority delegated to this position through By-Law 2020-078.

The final chapter of the FMP provides an implementation plan, which is intended to provide Council with an initial outline of the proposed schedule and high-level cost estimates for implementing the recommendations and strategies contained within the plan. The fire master planning process aims for Council to adopt the FMP Report in totality as a strategic planning guide. The Fire Chief would then be responsible for the internal implementation of the operational recommendations and to bring forward to Council those recommendations that require consideration and approval. Where applicable, the recommendations with a financial impact would be presented as part of the regular corporate process to prepare the annual operating and capital budgets of the Town. Though the implementation plan may have proposed dates and timeline estimates, recommendations will come with ebbs and flows specific to known growth and identified in each budget process annually and measured through Council priorities for project considerations.

Industry best practices indicates that an FMP should be based on a ten-year community planning horizon, and that at the mid-point (i.e., year five) the plan should be reviewed to consider any revisions that may be required to address new, or revised legislation, updated community planning projections, and the progress of implementing the recommendations presented within this FMP.

Summary of Recommendations

ES Table 1 and ES Table 2 list the summaries of Recommendations and Operational Recommendations. Though both types of recommendations are of equal importance, they will be considered for implementation through different approaches.

ES Table 1: Recommendations Summary

No.	Recommendation
1	That the fire strategic goals presented within the proposed FMP be adopted in principle by Council to guide all decision-making related to the delivery of fire protection services within the Town of Oakville.
2	That consideration be given to the reorganization of the Administrative Support team as identified in within this FMP.
3	That the Town of Oakville review the workload required to sustain the Emergency Management program, along with the Town's Emergency Management objectives, and consider adding staff resources to manage the Emergency Management program as presented in this FMP.
4	That as part of the reorganization of the Administrative Support Team the OFD convert the 0.5 FTE Fire Prevention/Public Education Division administrative position (currently shared with Training) to a FTE administrative role dedicated to support the Fire Prevention/Public Education Division.
5	That the Town of Oakville incorporate the Fire Prevention Division space requirements in the future design of Fire Station 9 as outlined in this FMP.
6	That consideration be given to developing a Community Risk Reduction Plan as an all-inclusive approach to reducing risk within the Town, as presented within the proposed FMP.
7	That consideration be given to hiring one additional Fire Prevention Officer in the short term (one to three years) to cover the district currently assigned to the CFPO as recommended in this FMP.

No.	Recommendation
8	That as part of the reorganization of the Administrative Support Team the OFD convert the 0.5 FTE Training Division administrative position (currently shared with Fire Prevention) to a FTE administrative role dedicated to supporting Training Division and RTC duties.
9	That any future upgrades to the OFD's training facility prioritize increasing available classroom space, modernizing the washroom and kitchen facilities, providing permanent equipment storage solutions, parking, and an expanded apparatus bay that could also serve as an indoor training environment.
10	That OFD increase its training staff complement by one FTE position in the immediate term to oversee routine professional development and core skills maintenance of suppression staff, and that OFD consider the addition of a second FTE position in the mid-term horizon to maintain its instructor to firefighter ratio and to oversee the department's company officer program.
11	That consideration be given to adopting and sustaining a ratio of 1.33 (minimum on-duty firefighter to total complement of firefighters), applied per platoon. Applying the ratio to maintain the existing minimum staffing of 44 requires an approved minimum complement of 59 per platoon.
12	That consideration be given to hiring 16 firefighters to increase the staffing of the two existing rescue units to four firefighters.
13	That the Fire Chief and staff begin to identify for Council potential properties in the vicinity of the intersection of Trafalgar Road and Dundas Street East for the location of a future tenth fire station.
14	That the Town of Oakville plan for the design, construction and staffing of a tenth fire station in the short to mid-term horizon of this FMP, aligned with the growth and intensification planned for this area.
15	That the Fire Chief and staff investigate options for Council's consideration to acquire or identify potential properties in the vicinity of South Service Road and Davis Road, or the existing Town Hall site, for the location of a future eleventh fire station.

No.	Recommendation
16	That the Town of Oakville plan for the design, construction and staffing of an eleventh fire station in the mid to long-term horizon of this FMP, aligned with the growth and intensification planned for this area.
17	That Oakville Fire Department initiate a phased approach to implementing a District Chief model, with the first phase starting in the short-term of this FMP.
18	That the Town of Oakville consider increasing the number of service-ready reserve units to ensure the council-approved level of service is maintained.
19	That the Town of Oakville consider increasing the 1.6 FTE EVT positions to 2.0 FTEs to manage the additional services as recommended in this FMP.

ES Table 2: Operational Recommendations Summary

No.	Operational Recommendation
1	That the job descriptions for Oakville Fire Department's Senior Management Team be reviewed and revised to clearly define the roles and responsibilities for their current duties.
2	That the job descriptions for all positions covered by the Oakville Professional Firefighters Association be reviewed and updated.
3	That subject to Council's consideration and approval of the FMP, the Establishing and Regulating By-law 2019-071 be reviewed and updated as required.
4	That subject to Council's consideration and approval of the FMP, the Appointment By-Law 2020-126 be reviewed and revised as required to reflect the current Deputy Fire Chief appointments for the Town of Oakville.
5	That subject to Council's consideration and approval of the proposed FMP, that the Fire Chief prepare a report for Council's consideration to receive the Regional Mutual Aid Plan and pass an updated By-law authorizing the OFD's participation in said plan.
6	That the OFD perform a review of actual time spent to perform the associated tasks outlined in the Fees for Service schedule and the current rates based on recovery of staff time.

No.	Operational Recommendation
7	That the OFD review the 2017 Regional Mutual Aid Plan and update the relevant Oakville Fire Department information.
8	That the Town of Oakville negotiate references to NFPA 1225 into the next term of the agreement for the Dispatch Service Agreement with the City of Burlington.
9	That the OFD establish fire suppression comparator performance benchmarks for the defined urban area based on NFPA 1710 and to use them to monitor and report to Council and the community.
10	That the OFD prepare and submit an annual report to Council.
11	That OFD develop and implement a mental health and wellness support program.
12	That the OFD seek to procure a new Records Management System software program as identified in this FMP.
13	That the OFD investigate the creation of an interface between Telestaff and the Town's financial software to automate the administrative tasks as identified in this FMP.
14	That the OFD develop a department policy, consistent with the Town's Retention By-law 2021-130, that describes the required records management practices for each division within the OFD.
15	That consideration be given to revising the appointment of the CEMC as presented within the proposed FMP.
16	That the CFPO's day to day responsibilities do not include coverage of a district as outlined in this FMP.
17	That the Oakville Fire Department undertake a review of the Fire Protection and Emergency Management Policy (Corporate Policy MF-FPS 001), Fire Prevention Procedure (Corporate Procedure MF-FPS-001-001), and OFD Fire Prevention Policy (Policy #4-5) as outlined in this FMP.
18	That the OFD establish a standard operating procedure to formalize the process of receiving and managing fire safety requests and complaints.
19	That the OFD acquire a Records Management System that is capable of storing and exporting reliable and valuable data on the Fire Prevention Division's activities as identified in this FMP.

No.	Operational Recommendation
20	That the OFD develop a NFPA 1035–Fire and Life Safety Educator I and NFPA 1031–Fire Inspector I training program as part of the recruit firefighter training program and/or part of the officer development training program to enable the Suppression Division to enhance the delivery of the first two lines of defence as outlined in this FMP.
21	That the OFD establish a standard operating procedure to identify the goals, objectives, and procedures for the Home Awareness Program.
22	That the OFD establish a standard operating procedure to identify the procedure to be followed by suppression crews if a missing or defective smoke/ carbon monoxide alarm is identified by the OFD.
23	That the Oakville Fire Department consider the implementation of a proactive fire inspection program as outlined in this FMP.
24	That consideration be given to the development and implementation of a Pre-planning Program as outlined in the FMP.
25	That consideration be given to developing an enhanced investigation and reporting strategy whereby data gathered through the fire origin and cause can be used for the purposes of developing and implementing public education and fire prevention initiatives as presented in the proposed FMP.
26	That consideration be given to implementing the proposed enhanced Home Awareness Program focusing on missing or defective smoke detectors as outlined in the FMP.
27	That consideration be given to enhancing the tracking of all workloads associated with the OFD fire inspection and enforcement programs as presented within the proposed FMP.
28	That consideration be given to enhancing the fire safety program for seniors (65+) within the community as presented within the proposed FMP.
29	That consideration be given to implementing a targeted public education program around carbon monoxide and false alarm incidents as presented within the proposed FMP.
30	That consideration be given to enhancing the tracking of all workloads associated with the OFD public education programs as presented within the proposed FMP.

No.	Operational Recommendation
31	That the OFD continue to provide NFPA Pro-Qual training courses through its established RTC, with ongoing review of the administrative and operational costs associated with outside student enrollment to adjust student fees accordingly.
32	That the OFD continue to use in-house certification initiatives with the OFM's AS&E testing in addition to the more formal courses offered through the department's RTC.
33	That OFD develop and implement a formal Inclusion, Diversity, Equity and Accessibility (IDEA) program.
34	That OFD revisit its training compliance and record keeping systems to ensure that assigned training is properly recorded as outlined by Section 21 Guidance Note #7-3 Training Plans.
35	That the OFD investigate the feasibility of renovating and installing power vents in the bunker gear storage areas as identified in this FMP.
36	That the OFD prioritize the implementation of a process to record, monitor and understand the impacts of the vertical response performance for all emergency responses to incidents at high-rise buildings to inform future department planning.
37	That the OFD investigate options to enhance the existing turnout times as a strategy to further reduce the existing total response time of the OFD.
38	That the Town of Oakville monitor the kilometres, maintenance and repair budgets of the fleet to determine if adjustments in the replacement schedule are required.
39	That the Town of Oakville consider transitioning the fleet services and stores activities currently being performed by fire department staff to the fleet operations and stores divisions.
40	That the Town of Oakville consider a software solution which integrates the truck check software with the fault reporting software as identified in this FMP.
41	That the OFD review, revise and update the equipment related SOPs to ensure they are up to date with industry best practices.

1.0 Introduction

This comprehensive Fire Master Plan (FMP) was developed to review all operations within the Oakville Fire Department and it strives to align its services with the needs of the growing community. The FMP will provide the Town of Oakville (Town) and Council with a strategic framework to inform the delivery of fire protection and emergency services over the next ten-year community planning horizon. This plan was informed by the Town's Official Plan and Council's long-term strategy. It provides a detailed review of fire services administration, training, fire prevention and public education, fire suppression and emergency response, fire stations, apparatus and equipment, communications and community emergency planning and includes recommendations and a phased action plan. The recommendations contained within the FMP, founded upon community risk legislation and strategic planning principles, are critical for continuous improvement within a growing municipality, such as the Town of Oakville.

Within the Province of Ontario, the Fire Protection and Prevention Act, 1997 (FPPA), Occupational Health and Safety Act, R.S.O. 1990 (OHSA), Ontario Regulation (O. Reg.) 378/18 – Community Risk Assessments, and the new O. Reg. 334/22 – Firefighter Certification, contain legislative requirements related to the delivery of fire protection services by municipalities. The analyses and results discussed within this FMP have considered the Town's legislative requirements. Where applicable the plan provides recommendations to address existing gaps and future needs. The methodology and analysis within this FMP was also informed by current industry best practices, including Public Fire Safety Guidelines (PFSGs) authored by the Office of the Fire Marshal (OFM) and fire protection standards authored by the National Fire Protection Association (NFPA).

The Town's Fire Services mandate is to "Protect People, Property and the Environment." The Town of Oakville and its fire department have a demonstrated history of preparing FMPs within broader strategic planning processes to proactively manage the needs of the growing community. The preparation of this FMP recognizes the continued commitment of the Town's Council and senior municipal staff in striving to achieve the most effective and efficient level of fire protection services resulting in the best value for the community.

2.0 Related Plans and Reports

The Town of Oakville, like other municipalities, has several interconnected planning documents that outline the Town's future growth and development and include elements related to building, social, and environmental considerations. The following section provides a high-level overview of related plans and reports that have been reviewed and considered in developing this FMP.

2.1 Council's Long-Term Strategy – A Vibrant and Livable Community for All

Council's long-term strategy is a guiding document that demonstrates Council's commitment to building the community of Oakville towards the vision of a vibrant and livable community for all. This will be accomplished by serving the community in a responsible, inclusive way, dedicated to building environmental, social, and economic sustainability. The Town's guiding principles provide a broad philosophy that encompasses town values and ground the design and delivery of programs and services. The Town's guiding principles are leadership, inclusivity, sustainability, fiscal responsibilities, quality of life and excellence.

The long-term strategy identified four strategic priority areas of what matters most to the community. The four priority areas are Growth Management; Community Belonging; Environmental Sustainability; and Accountable Government.

Along with the long-term strategy is a four-year action plan, developed for each term of Council, to show how the Town will move toward the achievement of its vision.

2.2 Official Plan – Livable Oakville

Oakville's Official Plan, called Livable Oakville, is a legal document that guides how the Town will grow and develop, as required by the *Ontario Planning Act*. The current Official Plan looks out to 2051 and sets out the goals and policies used to manage land use in town. It aims to enhance the Town's natural, cultural, social and economic environments by ensuring that environmental sustainability, cultural vibrancy, economic prosperity and social well-being are incorporated into growth and development decisions.

2.3 Master Plans

Master plans build on the goals and policies from the Official Plan and are guided by Council's long-term strategy to define specific medium-range plans on topics such as parks and recreation, library services, cultural enhancement, fire services, transportation and more.

The master plans further identify objectives, strategies, and actions to be completed over a set period and help guide Council decisions. Collectively, the master plans address, enhance and monitor actions that contribute overall to a high quality of life and prosperity for the Town's residents and businesses. Master plans are generally reviewed every five to 10 years.

In addition to providing a set of planned actions, master plans also consider ways to address several key corporate objectives. These objectives are:

- Asset Management: The Town of Oakville will make the best possible decisions regarding town assets in a way that provides targeted levels of service and manages risk in a cost-effective manner throughout the entire asset life cycle. Infrastructure assets are managed in a strategic, comprehensive, enterprise-wide manner and are treated as interrelated components in a unified system, rather than as isolated parts.
- Climate Action: Town Council declared a climate emergency in 2019 and is committed to addressing the impacts of climate change through mitigation, adaptation, the natural environment, and foundational supports. The Town leads by example in its own operations and embeds climate action into all organizational considerations towards the goal of achieving a net zero carbon target by 2050 for all corporate activities. The Town also advances community energy goals and considerations through engaging partners and stakeholders.
- Technological and Data Management Opportunities: The Town aims to become the most digitally connected community in the Greater Toronto Area (GTA) and is focused on achieving a connected community in the areas of online services; partnerships and data management; and digital infrastructure.
- Inclusion, Diversity, Equity, and Accessibility (IDEA): The Town embraces a culture of IDEA that represents and responds to the Town's workforce and the community. Equity-deserving groups include women, Indigenous people, people with disabilities, racialized people, and people of the 2SLGBTQ+ community. Awareness of potential

barriers that equity-deserving groups face helps Council make better decisions to ensure that community members can engage fully in community life.

- People Plan: The Town supports a dynamic and engaged workforce, ensuring staff have the resources, tools, and supports needed to do their jobs in a collaborative, healthy work environment.

2.4 Other Strategic and Guiding Plans

In addition to master plans, there are other guiding plans and strategies that align with the direction setting planning documents noted above. Together, these guide the Town's future for a vibrant and livable community for all.

2.5 Previous Oakville Fire Department Studies

FMPs are typically developed as 10-year plans, with updates completed at the five-year horizon. The Town of Oakville has been diligent in keeping its fire department plans up to date. Dillon Consulting Limited (Dillon) was retained in 2007 to complete a FMP and in 2011 to complete an update of the 2007 plan. In 2014, Dillon was retained to update the fire response model. Dillon worked with the Town in 2015 to prepare a FMP that was presented to Council in 2016. Focused fire response modelling updates /assessments were completed by Dillon for OFD in 2017, 2019 and 2020. This indicates that the timing of the subject FMP study is consistent with best practices for strategic municipal fire services planning.

This FMP has been developed as a ten-year plan, with the understanding that the Town intends to conduct a review at the five-year horizon, in alignment with past and best practices. It is worth noting that the regular cycle of master planning for Oakville Fire Department was impacted by COVID-19 pandemic. The addition of the legislation requirement to prepare a Community Risk Assessment also increased the timelines of the master planning process. These factors affected the timelines of the projected continuation of an FMP by 2021/2022. This current FMP is part of a continuous work project culminating with the prepared document submission in 2024 and the subsequent FMP Update (five-year horizon) is anticipated for completion in 2028/2029.

3.0 Fire Master Planning Process

The general process of developing a FMP is outlined within PFSG 03-02-13 Master Planning Process for Fire Protection Services. In our view, the guiding principles of PFSG 03-02-13, are applicable to this fire master planning process, including:

- The residents of any community are entitled to the most effective, efficient and safe fire services possible;
- The content of existing collective agreements will be respected, and the collective bargaining process will be recognized as the appropriate channel for resolving labour relations issues under collective agreements and the *Fire Protection and Prevention Act*;
- Collective bargaining issues affecting public safety will be identified; and
- Those responsible must work within these parameters in making recommendations for improving municipal fire services.

The development of this FMP was also informed by PFSG 01-01-01 Fire Protection Review Process that identifies a number of factors to be considered in conducting the fire protection review process including:

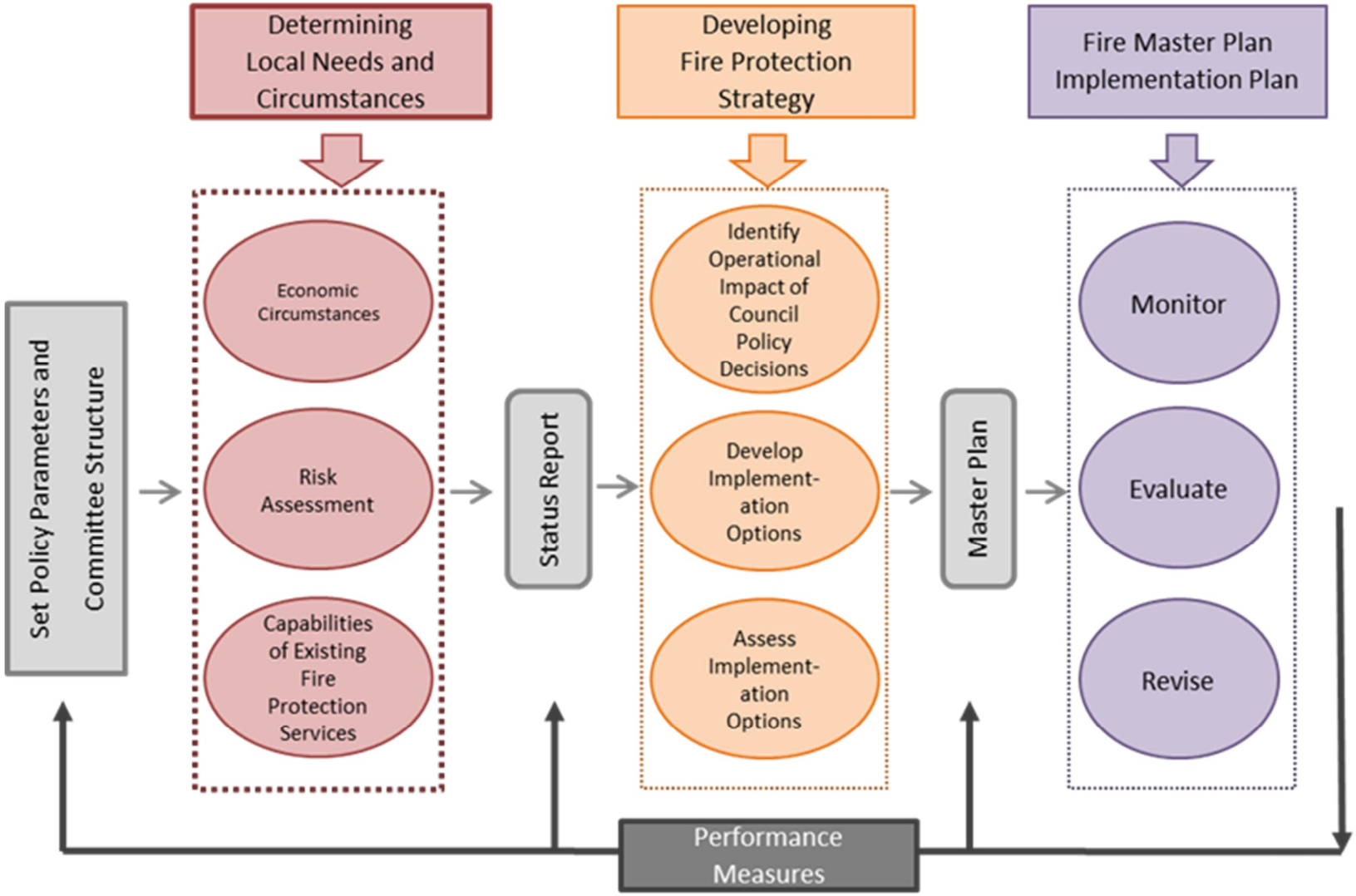
- The overall objective of any fire protection program is to provide the optimum level of protection to the community, in keeping with local needs and circumstances;
- Extensive research has demonstrated that there are a variety of factors that will have an impact on the fire department's capacity to 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.

Applying these principles and overall processes to develop this FMP for the Town of Oakville included the analysis of community fire risk (CRA) and future community growth and development. The FMP process also reviewed the efficiency and

effectiveness of each Oakville Fire Department (OFD) division, along with emergency response capabilities and station locations (existing and future needs), staffing resources and deployment procedures, fire prevention and public fire safety education programs, service agreements, apparatus/equipment, and all related requirements.

Figure 1 reflects the framework for developing a FMP, such as the Town of Oakville's FMP, for optimizing public fire safety. The development of this FMP is also intended to provide the OFD with the supporting documentation required to inform the Centre for Public Safety Excellence's (CPSE's) Standards of Cover and Risk Assessments, required as part of the Commission on Fire Accreditation International (CFAI) accreditation process.

Figure 1: Fire Master Plan Framework



3.1 Applicable Legislation

In addition to the Community Risk Assessment, the analysis and findings of this fire master planning process have been informed by the applicable legislation including the FPPA, 1997 the OHSA, RSO 1990, guidelines as authored by the OFM, industry standards as authored by the NFPA, and Dillon's knowledge of current industry best practices, as garnered from our experience in working with other municipalities across Canada.

3.1.1 Fire Protection and Prevention Act, **1997**

Within the Province of Ontario, the relevant legislation for the operation of a fire department is contained within the FPPA. In addition to promoting fire prevention and public safety, the FPPA is also the Act under which the Ontario Fire Code (OFC) is regulated. While all legislation should be read and understood in its entirety, the following are applicable sections of the FPPA for reference purposes to this fire master planning process.

Table 1: FPPA Definitions – Part 1

Part 2	Definitions
Definitions	1.(1) In this Act, "fire chief" means a fire chief appointed under section 6 (1), (2) of (4); "fire code" means the fire code established under Part IV; "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; "firefighter" means a fire chief and any other person employed in, or appointed to, a fire department and assigned to undertake fire protection services, and includes a volunteer firefighter; "Fire Marshal" means the Fire Marshal appointed under subsection 8 (1); "fire protection services" includes fire suppression, fire prevention, fire safety education, communication, training of persons involved in the provisions of fire protection services, rescue and emergency services and the delivery of all those Services; "municipality" means the local municipality as defined in the Municipal Act, 2001; "prescribed" means prescribed by regulation; and "regulation" means a regulation made under this Act.
Automatic Aid Agreements	(4) For the purposes of this Act, an automatic aid agreement means any agreement under which, (a) a municipality agrees to ensure the provision of an initial response to fires 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 (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

Part 2	Definitions
	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).

Table 2: FPPA Definitions – Part 2

Part 2	Responsibility for Fire Protection Services
Municipal Responsibilities	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.
Services to be Provided	(3) In determining the form and content of the program that it must offer under clause (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.
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.

Part 2	Responsibility for Fire Protection Services
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 2	Responsibility for Fire Protection Services
Responsibility to Council	6(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. [2]
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.

[2] OFM Communique No. 2023-09 Interpretation of s.6(3) of the FPPA, issued September 6, 2023, clarifies that "While a municipality may choose to have the fire chief report through an administrative organizational structure, the fire chief remains accountable directly and individually to council for all aspects of fire safety and the delivery of fire protection services within the municipality." The document also clarifies that "any consideration of these matters be risk-based, as communities are required under O. Reg. 378/18: Community Risk Assessments to use their community risk assessments to inform decisions about the provision of fire protection services by no later than July 1, 2024."

Table 3: FPPA Definitions – Part 3

Part 3	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	9.(1) the Fire Marshal has the power, (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; (b) to issue directives to assistants to the Fire Marshal respecting matters relating to this Act and the regulations; (c) to advise and assist ministries and agencies of government respecting fire protection services and related matters; (d) to issue guidelines to municipalities respecting fire protection services and related matters; (e) to co-operate with anybody or person interested in developing and promoting the principles and practices of fire protections services; (f) to issue long service awards to persons involved in the provision of fire protection services; and (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.

Part 3	Fire Marshal
Duties of Fire Marshal	9.(2) It is the duty of the Fire Marshal, (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.

The FPPA includes a series of important O. Reg. that are very applicable to this fire master planning process including:

- O. Reg. 213/07 – OFC;
- O. Reg. 365/13 – Mandatory Assessment of Requests and Complaints;
- O. Reg. 364/13 – Mandatory Inspections and Fire Drills in Vulnerable Occupancies;
- O. Reg. 378/18 – CRA; and
- The new O. Reg. 343/22 – Firefighter Certification.

3.1.2 Occupational Health and Safety Act

The OHSA, R.S.O. 1990 requires every employer to, "take every precaution reasonable in the circumstances for the protection of the worker"[3]. The OHSA provides for the appointment of committees, and the Minister of Labour has established the Ontario Fire Services Section 21 Advisory Committee as the advisory committee to the Minister with the role and responsibility to issue guidance notes to address firefighter-specific safety issues within Ontario.

Firefighter safety must be a high priority 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 Operating Guidelines or alternatively Operating Procedures that are consistent with the direction of the OHSA Section 21 Guidance Notes for the fire service.

3.2 Applicable Public Fire Safety Guidelines

The FPPA defines the roles and responsibilities of the OFM. This includes assigning specific powers to the OFM, such as: "To issue guidelines to municipalities respecting fire protection services and related matters". At this time, the OFM is conducting a comprehensive review of all PFSGs. During this review process, the OFM has informed the fire service that the current PFSGs may be referred to for reference purposes. Where applicable, this FMP identifies relevant PFSGs for reference. Electronic copies of documents managed by the OFM, such as the existing PFSGs can be requested by emailing AskOFMEM@ontario.ca.

3.2.1 Three Lines of Defence

Under the leadership of the OFM, the Province of Ontario has developed what is known as the Comprehensive Fire Safety Effectiveness Model (CFSEM) as detailed through PFSG 01-02-01. This includes a fire protection planning strategy known as the Three Lines of Defence. Historically, the fire service has focused on firefighters and fire suppression. The Three Lines of Defence model recognizes that there are proactive

[3] OHSA, R.S.O. 1990, c. O.1 Part III s. 25(2)(h).

measures that can be taken to reduce the risk of a fire by reducing the probability of a fire occurring and reducing the consequences of the fire.

The Three Lines of Defence model includes:

1. Public Education and Prevention;
2. Fire Safety Standards and Enforcement; and
3. Emergency Response.

These are further defined as:

1. Public Education and Prevention:

As outlined by the OFM, Public Education and Prevention means 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.

2. Fire Safety Standards and Enforcement:

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

3. 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.

The analyses and recommendations contained within this FMP prioritize the application of the "Three Lines of Defence" model for two main reasons. First, the scope of this FMP is not limited to fire suppression in that this plan also considers and provides a review of fire prevention and public education with consideration to optimizing the first two lines of defence. Second, this plan is informed by a Community Risk Assessment, as required by O. Reg. 378/18 Community Risk Assessments.

3.3 Applicable Industry Standards

The NFPA is an international non-profit organization that was established in 1896. The organization's mission is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus, codes and standards, research, training, and education. With a membership that includes more than 70,000 individuals from nearly 100 nations, NFPA is recognized as one of the world's leading advocates of fire prevention and an authoritative source on public fire safety.

NFPA is responsible for 300 codes and standards that are designed to minimize the risk and effects of fire by establishing criteria for building, processing, design, service, and installation in the United States, as well as many other countries. It has more than 200 technical code and standard development committees that are comprised of over 6,000 volunteer seats. Members vote on proposals and revisions in a process that is accredited by the American National Standards Institute (ANSI).

Over the past decade the Ontario fire service has been transitioning to the use of NFPA standards to guide many of the services provided.

An example of this is the transition process from the previous Ontario Fire Services Standards to the NFPA Professional Qualifications (NFPA Pro-Qual) Standards announced by the OFM in 2014. Where applicable, this FMP will identify the specific existing NFPA standards that have been referenced. Table 4 lists a sample of standards by division that may be described or referenced throughout this plan.

In April 2019 the NFPA Standards Council voted to support a consolidation plan to combine the Emergency Response and Responder Safety (ERRS) standards, best practices and guides, by topic, into consolidated standards. The consolidation process began in January 2020 and is expected to be completed by 2025. NFPA has identified the new draft standards that will consolidate the existing single standard. For example, a

new NFPA 1750 standard will consolidate existing NFPA 1201, NFPA 1710, NFPA 1720 and NFPA 1730. The new draft standards are identified within Table 4.

Table 4: Summary of Applicable NFPA Standards

Division	Applicable NFPA Standards [Consolidation Plan – New Draft Standard]
Fire Prevention	• NFPA 1730 – Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations (2019 Edition) [NFPA 1750]. • NFPA 1031 – Standard for Professional Qualifications for Fire Inspector and Plans Examiner (2014 Edition) [NFPA 1030]. • NFPA 1035 – Standard for Professional Qualifications for Fire and Life Safety Educator, Public Information Officer, and Juvenile Firesetter Intervention Specialist (2015 Edition) [NFPA 1030]. • NFPA 1033 – Standard for Professional Qualifications for Fire Investigator (2014 Edition) [single standard]. • NFPA 1300 Standard on Community Risk Assessment and Community Risk Reduction Plan Development (2020 Edition) [NFPA 1300].
Training	• NFPA 1041 – Standard for Fire Service Instructor Professional Qualifications (2019 Edition) [NFPA 1020]. • NFPA 1403 – Standard on Live Fire Training Evolutions (2018 Edition) [NFPA 1400].

Division	Applicable NFPA Standards [Consolidation Plan – New Draft Standard]
Fire Suppression	• NFPA 1710 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) [NFPA 1750]. • NFPA 1001 – Standard for Firefighter Professional Qualifications (2019 Edition) [NFPA 1010]. • NFPA 1021 – Standard for Fire Officer Professional Qualifications (2020 Edition) [NFPA 1020]. • NFPA 1142 – Standard on Water Supplies for Suburban and Rural Fire Fighting (2017 Edition) [single standard].
Communications	• NFPA 1221 – Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (2019 Edition) [NFPA 1225]. • NFPA 1061 – Professional Qualifications for Public Safety Telecommunications Personnel (2018 Edition) [NFPA 1225].
Mechanical	• NFPA 1901 – Standard for Automotive Fire Apparatus (2016 Edition) [NFPA 1900]. • NFPA 1911 – Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles (2017 Edition) [NFPA 1910].

3.3.1 National Institute of Standards and Technology

The National Institute of Standards and Technology (NIST) was founded in 1901 as a non-regulatory agency within the United States (US) Department of Commerce. NIST's mission is to promote US innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

In April of 2010, NIST released their Technical Note #1661 “Report on Residential Fireground Field Experiments” reflecting a collaborative research analysis conducted by leading fire service agencies. The analysis within this report investigated the effects of

varying crew sizes, apparatus arrival times and response times on firefighter safety, overall task completion and interior residential tenability using realistic residential fires.

The result of a similar study identified in Technical Note #1797 "Report on High-Rise Fireground Field Experiments" was released in April 2013 that assessed the deployment of firefighting resources to fires in high-rise buildings. These studies are both examples of the technical research and analyses that are taken into consideration in order to develop and update the NFPA standards referenced within this FMP.

3.3.2 Commission on Fire Accreditation International

The Centre for Public Safety Excellence (CPSE) serves as the governing body for the two organizations that offer accreditation, education and credentialing: the Commission on Fire Accreditation International (CFAI) and the Commission on Professional Credentialing (CPC).

The CFAI defines itself as an organization that is committed to assisting fire and emergency service agencies throughout the world in achieving excellence through self-assessment and accreditation in order to provide continuous quality improvement and the enhancement of service delivery to their communities.

The objective of the CFAI program is to define an accreditation system that is a credible, achievable, usable, and realistic model. The ultimate CFAI goal is to provide an accreditation process to improve the abilities of municipalities to both understand and recognize their respective community fire risks, provide balanced public/private involvement in reducing these risks and improve the overall quality of life for community members using the accreditation model. Of importance to this fire master planning process is the CFAI strategy that seeks to achieve "continuous improvement" in the delivery of fire protection services.

The CFAI accreditation system is recognized as a current industry best practice within the fire service across North America. The CFAI strategy that promotes ongoing 'continuous improvement' is, in our view, an applicable strategic goal for all fire services. It is our understanding that the Town of Oakville and its fire department are working toward initiating the CFAI accreditation process. The FMP project was proactively scoped to align the development of the Community Risk Assessment and FMP as supporting documents to assist OFD in preparing the Standards of Cover and

Risk Assessment requirements of the CPSE accreditation process. The implementation of the CPSE accreditation process will require support and resourcing for the OFD. In preparation for the accreditation path being pursued, it is recommended that the Town of Oakville and OFD adopt the overarching objective of seeking continuous improvement as part of the proposed Strategic Fire Goals. This is discussed further in the following section.

3.4 Recommendations and Fire Strategic Goals

This FMP was prepared as a strategic planning tool to support senior staff and help guide Council decisions relating to fire protection and emergency services over the next ten-year community planning horizon. The introduction of new legislation including O. Reg. 378/18 – Community Risk Assessments now requires municipalities to consider fire-related risk identification and risk reduction strategies, such as those included in this FMP, to also guide their decision-making process.

The FMP identifies goals, strategies, recommendations, and actions to position OFD's services to meet the future needs of the growing community. Options and recommendations are presented for Council's consideration and approval to clearly communicate the level of fire protection services to be provided to the community, including where applicable, proposed performance benchmarks for ongoing monitoring and evaluation of the services to be provided.

To provide guidance and clarity around approval and implementation of the recommendations presented within this FMP a classification system has been included to identify the recommendations as either "recommendations" or "operational recommendations" that are defined as follows:

- Recommendations: These include recommendations that require consideration and approval related to a potential operating or capital financing impact or to inform a municipal policy decision including the setting of a municipal service level or where further direction to corporate staff may be needed.
- Operational Recommendations: These include recommendations that can be administered and implemented by the Fire Chief through the authority delegated to this position through By-Law 2020-078. In some cases, this may require the Fire Chief to prepare further documentation and internal reporting for approval.

An example of this is updating the current Establishing and Regulating By-law. This is a process that can be led by the Fire Chief, and senior corporate staff, and through normal reporting, be brought to Council for consideration and approval.

3.4.1 Fire Strategic Goals

Ultimately this fire master planning process is intended to provide a strong focus on developing and implementing strategies for providing the most effective and efficient delivery of fire protection services that provide the most value to a community. Through the experience of our clients, we have found that identifying strategic guiding principles, or Fire Strategic Goals, to guide the decision-making process is a valuable tool for a municipal Council when considering the recommendations of a Fire Master Plan.

Our analyses in preparing this FMP, including assessing compliance with applicable legislation, related reports and plans, current operations of the OFD, and knowledge of current industry best practices have been utilized to identify the following fire strategic goals for Council's consideration as part of this fire master planning process.

1. The Town of Oakville is committed to the use of its Community Risk Assessment, as required by O. Reg. 378/18, as a fire strategic goal, to assess the fire safety risks within the community as the basis for developing clear goals and objectives for all fire protection services provided by the Oakville Fire Department.
2. The Town of Oakville is committed to the optimization of the first two lines of defence, including the delivery of public education and fire prevention programs, and the use of fire safety standards and fire code enforcement as a fire strategic goal for the Oakville Fire Department in providing a comprehensive fire protection and risk-reduction program within the community.
3. The Town of Oakville will prioritize strategies that support continuous improvement in the delivery of sustainable fire protection services that provide the most effective and efficient level of services resulting in the best value for the community.
4. Town of Oakville supports the delivery of fire protection services required to meet the needs and circumstances of planned future community growth and intensification.

Recommendation #1: That the fire strategic goals presented within the proposed FMP be adopted in principle by Council to guide all decision-making related to the delivery of fire protection services within the Town of Oakville.

3.5 Stakeholder Consultation

Internal and external stakeholder consultation is a core component of a comprehensive fire master planning process. The project's scope of work included the following elements of stakeholder consultation:

- Interviews with Town and OFD staff;
- Interview with the Oakville Professional Firefighters Association Executive (Local 1582);
- Targeted interviews with community stakeholders;
- One online public survey; and
- One virtual/online public information session.

A summary of the results from the public consultation is attached as Appendix A. The involvement and engagement of staff and stakeholders in the FMP process aligned with the 'People Plan' key corporate objective.

3.6 Community Risk Assessment

This section summarizes the CRA process and how the risk conclusions (in essence [i.e.], identified risks or key findings) of the CRA inform the analyses of the existing, and future, fire protection needs of the Town of Oakville through the development of this FMP.

3.6.1 Methodology

The CRA has been developed for the Town of Oakville to comply with O. Reg. 378/18: CRA, which requires municipalities in Ontario to identify fire-related risks within the community through a comprehensive analysis of nine mandatory profiles (shown in Figure 2). To assist municipalities and fire departments in the process to develop a CRA, the OFM has developed Technical Guideline-02-2019 (TG-02-2019), which recognizes the value of understanding community fire risk, and the importance of developing fire-risk reduction and mitigation strategies in addition to providing fire suppression services. The methodology and analysis utilized to develop a CRA for the Town of

Oakville has been directly informed by TG-02-2019, as well as other current industry standards and best practices.

3.6.2 Risk Prioritization

The mandatory profile analysis resulted in a series of risk conclusion. These risk conclusions are referred to as a 'Key Finding' or an 'Identified Risk'. Risk conclusions referred to as an 'Identified Risk' were taken through a risk assignment process based on their probability and consequence as referred to within TG-02-2019. This resulted in each risk having a risk level (exempli gratia [e.g.], low, moderate, or high) assigned to assist in the prioritization of risks as part of this FMP.

3.6.3 Risk Treatment Process

All risk conclusions were taken through a risk treatment process and aligned with the three lines of defence in order to inform the analysis and recommendations within this FMP. The risk treatment process is presented within Figure 2. The risk treatment processes is connected to two Fire Strategic Goals 1 and 2, as outlined in Section 3.4.1.

As detailed in the CRA, the risk treatment process includes the application of risk treatment options as identified in TG-02-2019 (and best practices such as NFPA 1300 the Standard on Community Risk Assessment and Community Risk Reduction Plan Development).

The risk treatment options include:

- Avoid: Implementing programs and initiatives to prevent a fire or emergency from happening;
- Mitigate: Implementing programs and initiatives to reduce the probability and/or consequence of a fire or emergency;
- Accept: No specific programs or initiatives will be implemented. Accept the risk and respond if it occurs; and
- Transfer: Transfer the impact and/or management of the risk to another organization or body.

In addition to the four risk treatment options, each risk conclusion was reviewed through the lens of the "Five Es" as outlined in NFPA 1300, and the Institution of Fire

Engineers' Vision 20/20 National Strategy for Fire Loss Prevention. They include the following, which are also presented in Figure 2:

- Education: influences audiences to refrain from risky or unhealthy behavior or take positive action to reduce risk;
- Enforcement: reduces risks through enforcing legislation through inspections and fines for noncompliance;
- Engineering: includes incorporating new products and technology to modify the environment to prevent or mitigate injuries and deaths;
- Economic Incentives: are typically offered to encourage better choices and changes in behaviour; and
- Emergency Response: effective emergency response can mitigate the effects of unintentional injuries and save lives.

After the application of the risk treatment options and Five Es, the risk conclusions can be aligned with the three lines of defence. Where applicable, these risk conclusions are referenced throughout this FMP through the application of the Three Lines of Defence model.

The Three Lines of Defence model recognizes that there are steps that can be taken to reduce the risk of a fire including the probability of a fire occurring and the consequence of that fire.

The results of the risk treatment process for both the Identified Risks and the Key findings are shown in Table 5 and Table 6. The process and results are presented in a matrix format to indicate the ways in which the risks can be addressed by OFD and ultimately for consideration within the analysis and recommendations of this FMP.

The Community Risk Assessment incorporates consideration of existing climate change risks and impacts on emergency service needs, within the Hazard Profile, Geographic Profile, as well as Past Loss and Event History. This aligns with the Town's key corporate objective of Climate Action.

Figure 2: Risk Conclusions Application Process

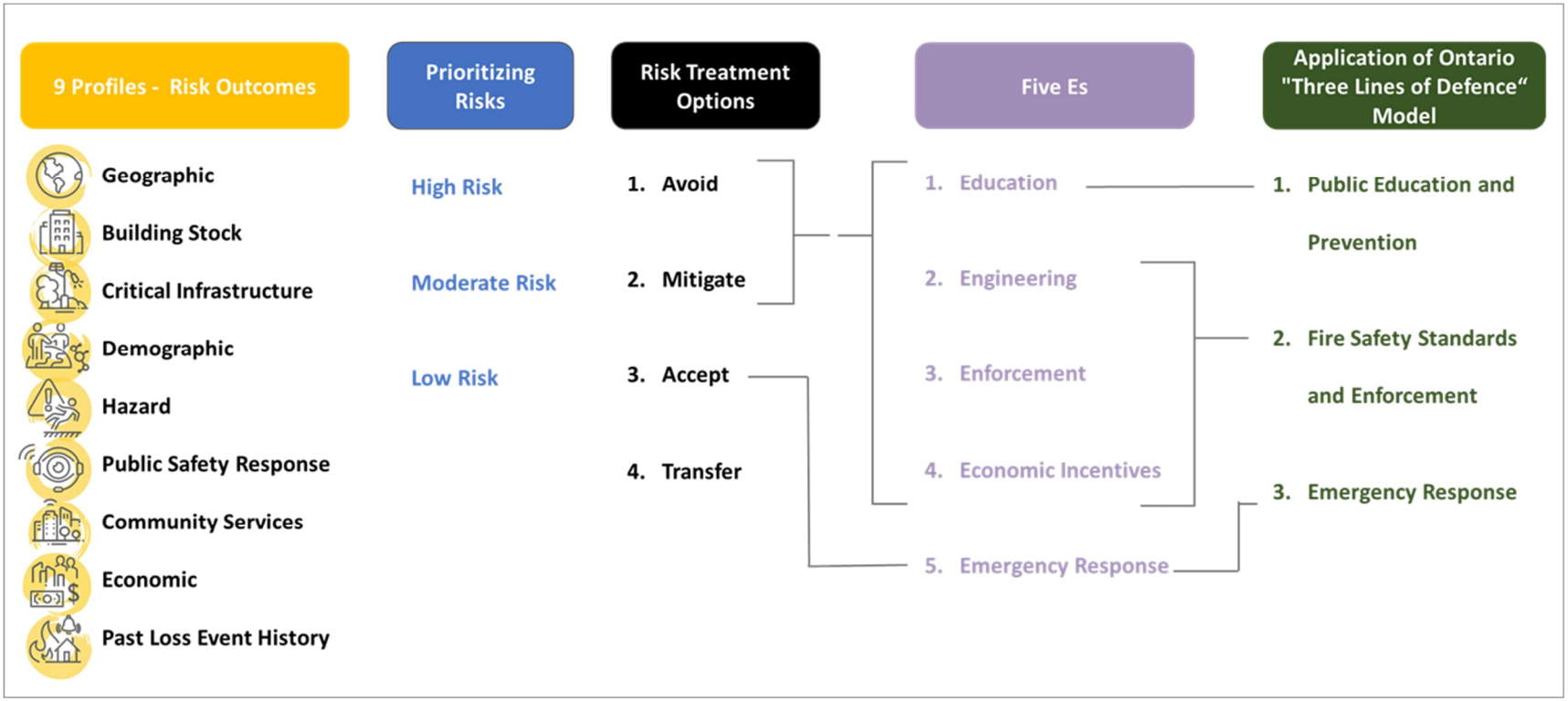


Table 5: Treatment Options and Five E's Categorization – Identified Risks

Profile	Identified Risk	Risk Level	Risk Treatment Option: Avoid Mitigate Accept Transfer	Education for consideration within the proposed Public Education Program	Enforcement for consideration within the proposed Inspection and Enforcement Program	Engineering for consideration within the proposed Inspection and Enforcement Program	Economic Incentive for consideration within the proposed Inspection and Enforcement Program	Emergency Response for consideration within the proposed Emergency Response Program
Geographic	Motor vehicle-related incidents on the existing road network represent 87.9% (2,149) of all rescue responses of the Oakville Fire Department.	High	Accept	No	No	No	No	Yes
Geographic	The presence of 12 Mile Creek, 14 Mile Creek, 16 Mile Creek and Joshua's Creek flooding in low-lying areas.	Low	Mitigate Accept	Yes	No	No	No	Yes
Geographic	The presence of waterways within the Town, such as 12 Mile Creek, 14 Mile Creek, 16 Mile Creek and Joshua's Creek, creates a potential need for specialized ice and water rescue Services.	Low	Mitigate Accept	Yes	No	No	No	Yes
Building Stock	Group C – Residential Occupancies represent 91.77% of the Town's existing building stock, and over the five-year period from January 1, 2016, to December 31, 2020 were associated with 77.1% of the structure fires within the Town.	High	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Building Stock	The 2021 Census data indicates that 27.03% of the Town's Group C-Residential building stock was built prior to the introduction of the 1981 OFC.	High	Mitigate Accept	Yes	Yes	No	No	Yes
Building Stock	The Town currently has 135 buildings defined by the OBC as high-rise buildings with a floor level 18 metres (59 feet) above grade, or six storeys. These buildings are distributed throughout the urban area	High	Mitigate Accept	Yes	Yes	Yes	Yes	Yes

Profile	Identified Risk	Risk Level	Risk Treatment Option: Avoid Mitigate Accept Transfer	Education for consideration within the proposed Public Education Program	Enforcement for consideration within the proposed Inspection and Enforcement Program	Engineering for consideration within the proposed Inspection and Enforcement Program	Economic Incentive for consideration within the proposed Inspection and Enforcement Program	Emergency Response for consideration within the proposed Emergency Response Program
Building Stock	The Town has 217 buildings with a total building area (footprint) that exceed 50,000 square feet (4,655 square metres). These buildings are predominantly located in the Business Industrial and Employment Corridor land use designations along the Queen Elizabeth Way (QEW), Highway 403, Bristol Circle, Cornwall Road, and Speers Road.	High	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Building Stock	The Town of Oakville currently has 59 registered vulnerable occupancies.	High	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Demographic	Seniors (those 65 years and over) are considered to represent one of the highest fire risk groups across the Province based on residential fire death rate. According to the 2021 Census, seniors represent 15.7% of the Town's total population.	High	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Most reported fire related civilian injuries (24) occurred in Group C – Residential Occupancies.	High	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Of the fires occurring in the Town over the five-year period from January 1, 2016, to December 31, 2020, the leading cause of unintentionally set fires was due to misuse of ignition source at 29.0% (91 fires), compared to 29.5% in the Province.	Moderate	Mitigate Accept	Yes	Yes	Yes	Yes	Yes

Profile	Identified Risk	Risk Level	Risk Treatment Option: Avoid Mitigate Accept Transfer	Education for consideration within the proposed Public Education Program	Enforcement for consideration within the proposed Inspection and Enforcement Program	Engineering for consideration within the proposed Inspection and Enforcement Program	Economic Incentive for consideration within the proposed Inspection and Enforcement Program	Emergency Response for consideration within the proposed Emergency Response Program
Past Loss and Event History	Of the fires occurring in the Town over the five-year period from January 1, 2016, to December 31, 2020, the second most common cause of unintentionally set fires was due to mechanical/electrical failure at 16.6% (52 fires), compared to 15.3% in the Province.	Moderate	Mitigate Accept	Yes	Yes	Yes	Yes	Yes

Table 6: Treatment Options and Five E's Categorization – Key Findings

Profile	Key Finding	Risk Treatment Option: Avoid Mitigate Accept Transfer	Education For consideration within the proposed Public Education Program	Enforcement For consideration within the proposed Inspection and Enforcement Program	Engineering For consideration within the proposed Inspection and Enforcement Program	Economic Incentive For consideration within the proposed Inspection and Enforcement Program	Emergency Response For consideration within the proposed Emergency Response Program
Geographic	Bridges, with restrictions or closures, have the potential to reduce the connectivity of the Town's road network resulting in the potential for delays in emergency response times.	Accept	No	No	No	No	Yes
Geographic	Grade-level rail crossings could create a physical barrier to the connectivity of the Town's road network that can potentially result in delays in emergency response times.	Accept	No	No	No	No	Yes
Building Stock	The Town includes areas of building stock that have higher density and, as such, greater potential for exposure in the event of a fire.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Building Stock	The Town has several areas of new construction that can be assumed to include lightweight wood frame construction.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Building Stock	OFD identified 35 High Hazard Occupancies within Oakville.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Building Stock	In addition to registered vulnerable occupancies, the Town has 85 schools and 122 identified licensed daycares, representing higher fire life-safety risks due to the number of children attending these facilities.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Building Stock	The Town has identified a number of vacant buildings that may pose a fire risk.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes

Profile	Key Finding	Risk Treatment Option: Avoid Mitigate Accept Transfer	Education For consideration within the proposed Public Education Program	Enforcement For consideration within the proposed Inspection and Enforcement Program	Engineering For consideration within the proposed Inspection and Enforcement Program	Economic Incentive For consideration within the proposed Inspection and Enforcement Program	Emergency Response For consideration within the proposed Emergency Response Program
Building Stock	There are a great number of identified heritage buildings within Oakville, many of which were constructed prior to the introduction of the OFC.	Mitigate Accept	Yes	Yes	Yes	No	Yes
Demographic	The 2021 Census data indicates that children aged 14 and under represent 18.0% of the Town's total population.	Mitigate Accept	Yes	No	No	No	Yes
Demographic	Of the Town's total population, 13.1% fall into the age range of 55 to 64, representing a cohort aging towards the seniors demographic of 65 years or older.	Mitigate Accept	Yes	No	No	No	Yes
Demographic	The Town's commuter population presents a factor that may impact traffic congestion, and the potential occurrence of motor vehicle accidents within the Town.	Accept Transfer	No	No	No	No	Yes
Hazard	The Town's 2013 HIRA identifies hazards that could each impact the ability of the Town to deliver fire protection services.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Economic	The Town has identified top employers that contribute to the economic vitality of the community. If a fire were to occur at one of these facilities it could have a negative impact on the financial well-being of the Town.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Over the five-year period from January 1, 2016, to December 31, 2020, the Town averaged 63 structure fires per year.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes

Profile	Key Finding	Risk Treatment Option: Avoid Mitigate Accept Transfer	Education For consideration within the proposed Public Education Program	Enforcement For consideration within the proposed Inspection and Enforcement Program	Engineering For consideration within the proposed Inspection and Enforcement Program	Economic Incentive For consideration within the proposed Inspection and Enforcement Program	Emergency Response For consideration within the proposed Emergency Response Program
Past Loss and Event History	Over the five-year period from January 1, 2016, to December 31, 2020, structure fires occurring in Group C – Residential Occupancies account for 77.1% of total structure fires within the Town, which is 3.7% higher than the Province.	Mitigate	Yes	Yes	Yes	No	Yes
Past Loss and Event History	Over the five-year period from January 1, 2016, to December 31, 2020, structure fires occurring in Group E – Mercantile Occupancies account for 6.1% of total structure fires within the Town, which is 2.7% higher than the Province.	Mitigate	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Of the fires occurring within the Town over the five-year period from January 1, 2016, to December 31, 2020, 27.4% of fires had a reported ignition source of cooking equipment, which is 10.5 percentage points higher than the Province (16.9%).	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Of the fires occurring within the Town over the five-year period from January 1, 2016, to December 31, 2020, 27.4% of fires had a reported ignition source of “miscellaneous”, which is 17.3 percentage points higher than the Province (10.1%).	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Of the fires occurring within the Town over the five-year period from January 1, 2016, to December 31, 2020, 13.7% of fires had a reported ignition source of open flame/tools/smokers articles, which is 0.3 percentage points lower than the Province (14.0%).	Mitigate Accept	Yes	Yes	Yes	Yes	Yes

Profile	Key Finding	Risk Treatment Option: Avoid Mitigate Accept Transfer	Education For consideration within the proposed Public Education Program	Enforcement For consideration within the proposed Inspection and Enforcement Program	Engineering For consideration within the proposed Inspection and Enforcement Program	Economic Incentive For consideration within the proposed Inspection and Enforcement Program	Emergency Response For consideration within the proposed Emergency Response Program
Past Loss and Event History	Over the five-year period from January 1, 2016, to December 31, 2020, of the fire loss incidents in Group C – Residential occupancies, 14.0% of incidents did not have a smoke alarm present (compared to 17.4% in the Province).	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Over the five-year period from January 1, 2016, to December 31, 2020, 47.1% of the fire loss incidents in Group C – Residential occupancies had a smoke alarm present and operating compared to 44.6% in the Province.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Over the period from January 1, 2015, to December 31, 2021, the volume of emergency calls responded to by the Oakville Fire Department modestly increased between 2015 and 2021.	Mitigate Accept	Yes	Yes	Yes	No	Yes
Past Loss and Event History	For the period from January 1, 2016, to December 31, 2020, the highest percentage of emergency call volume responded to by Oakville Fire Department as defined by the OFM response types was medical/resuscitator calls representing 51.5% of total emergency call volume.	Accept	No	No	No	No	Yes
Past Loss and Event History	For the period from January 1, 2016, to December 31, 2020, the second highest percentage of emergency call volume responded to by Oakville Fire Department as defined by the OFM response types was false fire calls representing 14.8% of total emergency call volume.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	There are multiple areas with a high concentration of all emergency incident types, with the most notable area being centered around Kerr Street Village and downtown Oakville, north of Fire Station 3.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes

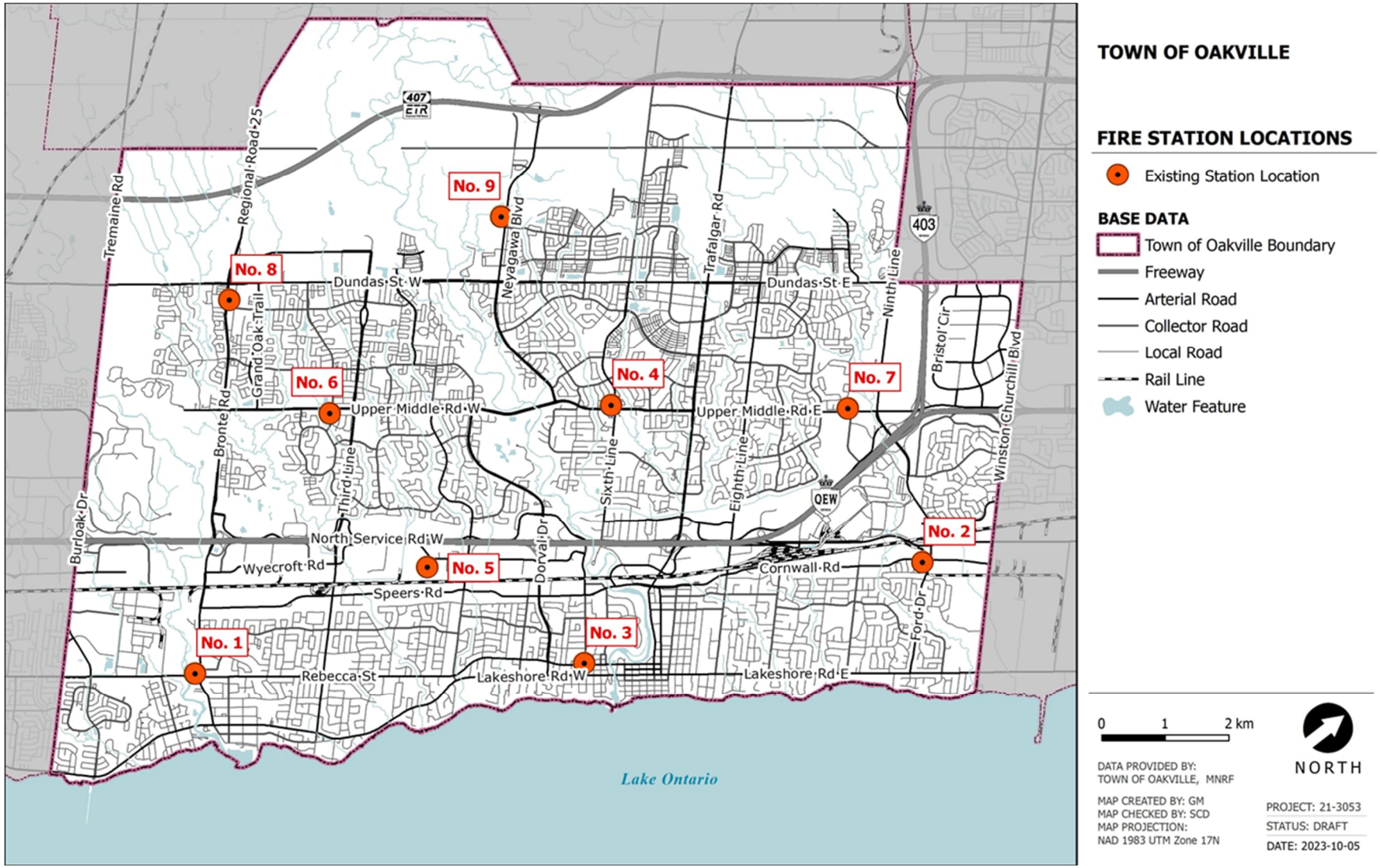
4.0 Oakville Fire Department Overview

The OFD is recognized within the industry as being a "Career Fire Department"[4]. This definition is based solely on the fire suppression deployment capabilities of the fire department that utilizes career (full-time) firefighters who are immediately available to deploy full-time firefighters, comprising at least 50% of an initial full alarm assignment. Currently, the OFD utilizes only full-time firefighters; therefore, the current fire suppression deployment model is 100 percent comprised of full-time firefighters.

The OFD is organized into four divisions: administration, fire prevention and public education, training, and fire suppression. The current total complement of staff is 264 full-time equivalent positions, including four non-union management positions, two non-union Administration Assistants, one Administrative Clerk (covered by Canadian Union of Public Employees [CUPE] Local 1329) and 257 uniformed staff who are all members of the Oakville Professional Fire Fighters' Association (OPFFA), Local 1582. The OFD provides a wide range of fire protection services to the community, including public education programs, fire inspections and emergency response (including medical calls, motor vehicle collisions, and fire-related incidents). The current fire suppression deployment model utilizes nine fire stations strategically located throughout the urban area of the Town. Figure 3 illustrates the geographical locations of the Town's nine current fire stations.

[4] National Fire Protection Association – NFPA Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the public by Career Fire Departments – Chapter 3 Definitions, Section 3.3.13 Career Fire Department.

Figure 3: Current Town of Oakville Fire Station Locations



DILLON CONSULTING

5.0 Administration Division

This section of the FMP outlines the responsibilities of the Administration Division. This division offers strategic guidance, overall management, and administration of the Oakville Fire Department. The section also covers the department's organizational structure, vision and mission, management roles and responsibilities, applicable by-laws, current service agreements, standard operating guidelines, and records management procedures.

5.1 Existing OFD Organizational Structure

Figure 4 illustrates the existing organizational and reporting structure of the OFD. Within this existing organizational structure, the Fire Chief and three Deputy Fire Chiefs are the only non-union management positions. This structure places a significant amount of workload on these positions to oversee a unionized workforce of 257 staff, including the strategic and daily responsibilities for delivering services to the public in the presence of a collective agreement.

The OFD management structure provides for three Deputy Fire Chiefs:

- Deputy Fire Chief – Public Education/Fire Prevention and Emergency Management;
- Deputy Fire Chief – Training Division; and
- Deputy Fire Chief – Operations.

The current organizational structure includes 12 full-time staff assigned to the Public Education/Fire Prevention Division, five full-time staff assigned to the Training Division, and 240 full-time staff assigned to the Fire Suppression Division. Table 7 illustrates the distribution of the existing full-time staff by division.

Figure 4: Existing OFD Organizational Structure

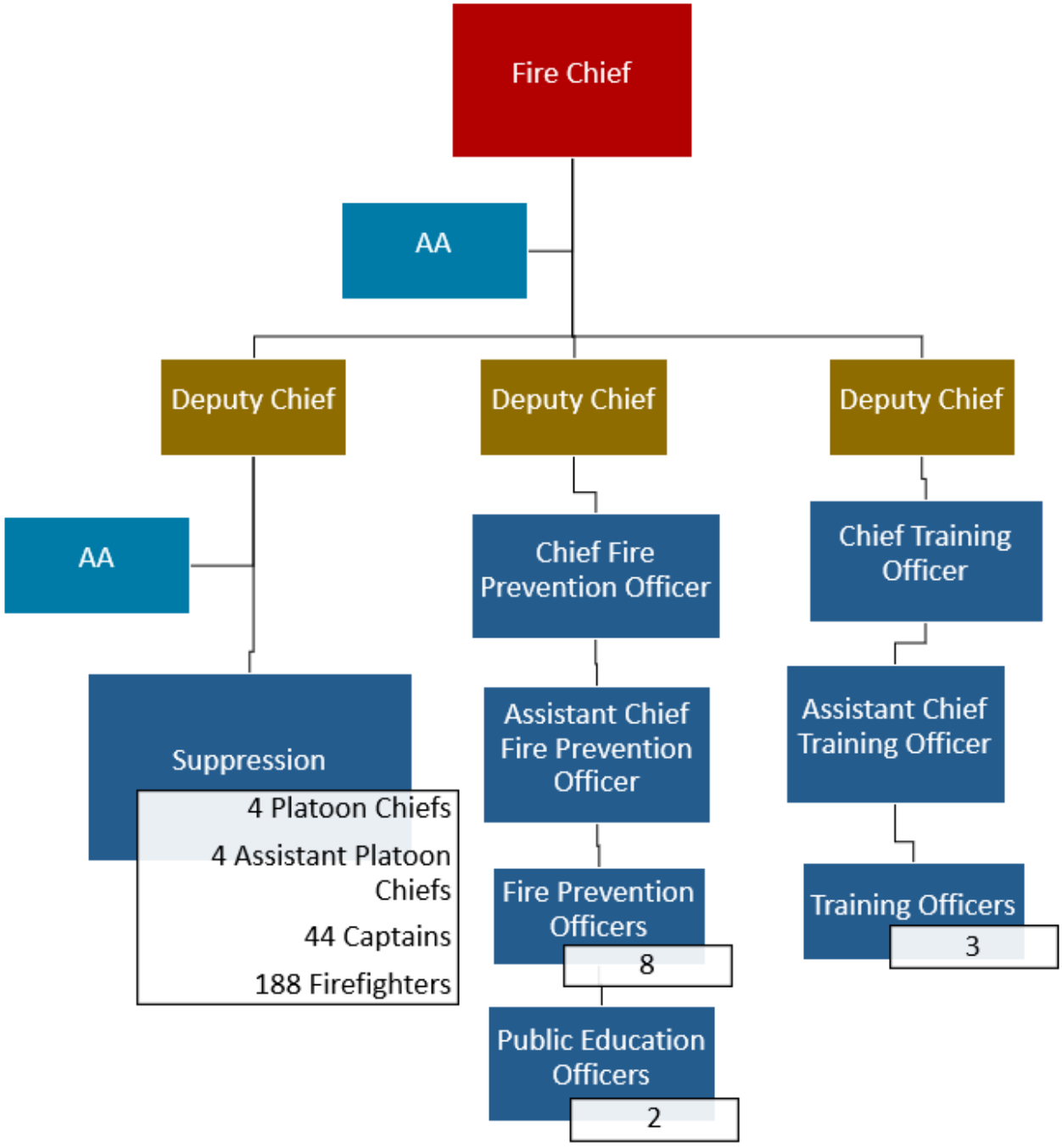


Table 7: Existing OFD Staff Resources

Division	Role	Number of Full-time Staff Resources	Union/Non-Union Position
Administration	Fire Chief	1	Non-Union
Administration	Deputy Fire Chief	3	Non-Union
Administration	Administrative Assistant	2	Non-Union
Fire Suppression	Platoon Chief	4	Local 1582
Fire Suppression	Assistant Platoon Chief	4	Local 1582
Fire Suppression	Captains	44	Local 1582
Fire Suppression	Firefighters	188	Local 1582
Fire Suppression	Suppression Technician	1	Local 1582
Training	Chief Training Officer	1	Local 1582
Training	Assistant Chief Training Officer	1	Local 1582
Training	Training Officer	3	Local 1582
Fire Prevention and Public Education	Chief Fire Prevention Officer	1	Local 1582
Fire Prevention and Public Education	Assistant Chief Fire Prevention Officer	1	Local 1582
Fire Prevention and Public Education	Fire Prevention Officer	8	Local 1582
Fire Prevention and Public Education	Public Education Officer	2	Local 1582
Fire Prevention/ Training	Administrative Clerk	1	CUPE 1329
Total		264	

5.2 OFD Mission Statement and Vision Statements

The OFM's PFSG 03-02-13 "Master Planning Process for Fire Protection" recognizes the importance of a mission statement for a fire department. A mission statement is intended to communicate the primary goal that members of the department are committed to achieving. Effective mission statements identify what an organization does, who it does it for, and how it does it.

The mission statement of the Oakville Fire Department is:

Our mission is to preserve and protect life, property, and the environment, with a commitment to community risk reduction through an all-hazards service delivery in a responsible and sustainable manner. We will serve our inclusive community with the values of Pride, Courage, Compassion and Unity.

Mission statements are intended to be short, clear, and powerful in defining an organization's purpose and primary objectives. They are intended to express why the organization exists to both internal and external stakeholders. The current mission of OFD reflects these current industry best practices.

A vision statement is a high-level statement describing what an organization desires to achieve. It is typically linked with its mission statement to complement each other. The vision statement for Oakville Fire Department is:

To provide excellence in service delivery from all divisions focused on fire prevention, public education, and fire suppression through innovation, community risk reduction, and with diverse high-performing teams in a vibrant and livable community for all.

The current Mission statement for the OFD was updated in 2023 to better reflect the OFM's "Three Lines of Defence", which reflects current industry best practices and what a fire department should be achieving in today's work environment. There is also alignment with the Town of Oakville's corporate vision and mission statements and the Oakville Fire Department's updated versions.

5.3 OFD Senior Management Team

The OFM's Senior Management Team is currently composed of four individuals: the Fire Chief and three Deputy Fire Chiefs. The management team responsible for overseeing everyday operations such as emergency management, budgeting, purchasing, and labour relations. Their primary objective is to maintain and enhance the level of fire protection services provided to the community by developing and implementing effective strategies to achieve the department's mission and vision statement.

5.3.1 Fire Chief

In the Town of Oakville, the responsibilities and authority of the Fire Chief are clearly defined within the Fire Service Establishing and Regulating By-law (By-Law 2019-071) attached to this FMP as Appendix B. Corporately, the Fire Chief reports to the

Commissioner of Community Services and is responsible for administering the operation of the fire department as defined through By-Law 2019-071. The Fire Chief was appointed by Council through By-Law 2020-078, which provides the Fire Chief with the authority to fulfill his roles and responsibilities as designated and defined within the FPPA: "the 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"[5].

5.3.2 Deputy Fire Chiefs

The current organizational structure of the OFD includes three full-time Deputy Fire Chiefs. The Deputy Fire Chief – Fire Prevention and Public Education has direct responsibility for Public Education/Fire Prevention Division and Emergency Management, while the second Deputy Fire Chief – Training is responsible for the Training Division, Communications/Dispatch and is the liaison for the contracted Fleet Services. The third Deputy Fire Chief – Operations is responsible for the Suppression Division and facility management. All three Deputies report directly to the Fire Chief and share one job description outlining the generic common areas of responsibilities for a Deputy Fire Chief.

Examples of the core responsibilities of the position of Deputy Fire Chief:

5.3.2.1 Deputy Fire Chief

- Provides day-to-day supervision of direct subordinates;
- Provides input to annual work plans and budgets;
- Recommends to the Fire Chief new/revised policies, procedures and work processes;
- Commander-in-Chief (alternate to the Fire Chief);
- Participation in ongoing analysis of fire causes and public security interventions to determine revisions/ improvements required in departmental policies and programs;
- Maintains effective working relationships with internal and external agencies;
- Maintains effective relationships with the public;
- Maintains effective working relationships and harmonious labour relations;
- Participates on committees; and
- Manages special projects as assigned.

[5] Fire Protection and Prevention Act, Section 6(3).

Our review of the Fire Chief and Deputy Fire Chiefs' present duties and responsibilities reveals that the management team has been operating at maximum capacity to manage the workload, tasks and obligations that are currently assigned to them. This can be attributed to the department's continued growth, additional reporting requirements, and the need for greater performance management. However, it can also be associated with a work environment that includes the oversight of a large, unionized workforce and the resulting labour relations. With the growth of the department comes a significant increase in the financial budgets. The OFD has the largest operating budget in the Town of Oakville, with the 2023 approved budget coming in at approximately 43.1 million which represents 11% of the Town of Oakville's overall operating budget. The Fire Chief is ultimately responsible to prepare and manage the budget, and traditionally, this responsibility is shared among the management team along with their other duties.

The demand for human resources management of staff has also grown for the OFD with the significant growth in staff and new programs implemented by the Town's corporate Human Resources, for which the individual departments are responsible for managing. The administration of the staff is split into the department's divisions for the Deputy Chiefs to manage. For the Fire Prevention and the Training divisions, the human resources roles are manageable. The Suppression Division, on the other hand, has grown to 240 staff, with increased human resources needs. The majority of the human resources-related activities fall to the Deputy of Suppression, with some assistance from a Human Resources Analyst who is assigned to OFD, this task becomes an overwhelming portion of the responsibility of the Deputy Chief that was not as significant 10 to15 years ago.

A review of the senior management team's responsibilities would be beneficial to ensure the workload is achievable while allowing the senior management team to be able to be proactive in setting and achieving short, medium, and long-range strategic planning goals for the division and the department.

5.3.3 Job Descriptions – General

Our review of the job descriptions provided for the positions of Fire Chief and Deputy Fire Chief has identified that the job descriptions are outdated, last revised in 2004. As previously identified, the Deputy Fire Chiefs share a generic job description which does not thoroughly outline their areas of responsibilities. Although the generic job

descriptions may still be relevant, in our experience the positions of Fire Chief and Deputy Fire Chief are commonly required to take on additional responsibilities which are not in their job description, creating job description scope creep. This is not uncommon in today's continuously changing administrative requirements from the Municipality and or additional obligations downloaded from the Ontario Fire Marshal's Office.

The job descriptions for the positions of Administrative Assistants (non-union) indicate they are relatively current after being reviewed in 2019.

Our review of additional documents provided for the positions of Platoon Chief, Captain, Firefighter, Chief Training Officer, Training Officer, CFPO, Fire Prevention Officer, are all dated (last revised in 2004). The job description for the position of Public Education officer is current, along with the position of Self-Contained Breathing Apparatus (SCBA) Technician.

It is good practice to review job descriptions on a regular basis to ensure they reflect the actual responsibilities of the position. As such, we are recommending that consideration be given to reviewing and revising the existing job descriptions for all OFD positions following Council's review and approval of this FMP.

Operational Recommendation #1: That the job descriptions for Oakville Fire Department's Senior Management Team be reviewed and revised to clearly define the roles and responsibilities for their current duties.

Operational Recommendation #2: That the job descriptions for all positions covered by the Oakville Professional Firefighters Association be reviewed and updated.

5.4 OFD Administrative Support

Administrative support for the OFD is provided by two Administrative Assistants (non-union) supporting Fire Management and one Administrative Clerk supporting Fire Prevention and Training.

The two Administrative Assistants who support fire management have distinctly different primary responsibilities; however, they share the following administrative functions:

- Responsible for providing confidential administrative support to the Fire Chief and Deputy Chiefs;
- Maintain and manage confidential correspondence and information related to employee records;
- Review and process requests from police services and submit camera footage information to Information Systems and the Clerks departments;
- Represent the Town in a professional and courteous manner;
- Respond to internal and external communication with incoming calls, all visitors and 258 internal staff inquiries;
- Oversee the investigation and rectification of problems. Liaise with other departments to maintain effective operations;
- Provide effective frontline customer service with telephone and reception;
- Arrange, schedule, and book appointments, including management meetings, inclusive of minutes and related correspondence;
- Manage the confidential corporate filing system while ensuring compliance with the Council-approved by-law;
- Represent the fire department as a member of the corporate Communication Resource Exchange Support Team (CREST) organization by attending quarterly meetings and mandatory training;
- Organize fire department special events/station openings;
- Coordinate, process and distribute incoming and outgoing mail and courier services;
- Manage the purchase, stocking, and distribution of all office supplies/requirements;
- Program the sign at Station 3 with public education and information messages;
- Evacuate offices as fire warden when the alarm sounds; and
- Perform other duties/special projects as assigned.

The job descriptions for two Administrative Assistants supporting fire management were reviewed and updated in October 2019. Although they share common responsibilities, as previously mentioned, they primarily spend most of their time performing distinctly different work. A high-level summary outlining the major responsibilities are as follows:

Administrative Assistant A – (currently the Senior Administrative Assistants):

- System administrator and technical advisor for Telestaff (Automated attendance, scheduling, and payroll software solution);

- System administrator for FDM Records Management Software (RMS);
- Vacancy and attendance management;
- Finance and payroll;
- Data analytics of department software;
- Web-writer and publisher for department web page; and
- Ministry of Transportation – Authorized individual responsible for extracting information related to department staff.

Administrative Assistant B:

- Facilities Management: department liaison for preventive maintenance and station deficiencies;
- Uniforms quartermaster;
- Finance: manage the day to day purchasing activity documentation and reconciliation;
- FDM Software Administrator: new employees, FDM Mobile Inspection APP and report builder;
- Occupational Health and Safety Committee Support; and
- Emergency Management support.

The Administrative Clerk responsible for supporting Fire Prevention and Training covers both divisions on a shared basis. The model is designed to have the clerk divide their time equally between each of the divisions. The primary responsibilities of the Administrative Clerk are:

- Provide day-to-day administrative clerical and customer support services for Training and Fire Prevention Divisions;
- Manage responses from telephone, email, and in person inquiries;
- Create correspondence, staff reports and forms;
- Complete Freedom of Information (FOI) search requests and associated documentation;
- Attend meetings, develop agendas, and take minutes;
- Assist in the coordination, planning and execution of fire department events;
- Support Training course delivery for OFD and Regional Training Centre (RTC) offerings;
- Book rooms for workshops, meetings, and conferences;

- Update and maintain filing systems;
- Compile statistics and generate weekly, monthly, and annual reports;
- Process Purchasing Card Operating System (PCOS) and other financial applications;
- Invoice and reconcile receivables from Fees for Service By-Law;
- Liaise with the Ministry of Transportation for billing and cost recovery;
- Assist with the preparation and organization of manuals pre-course materials, public education materials, etc.;
- Manage facility rental inquiries, scheduling, and bookings;
- Maintain Fire Route By-Law documentation; and
- Provide backup and support for other administrative staff.

5.4.1 Administrative Support Workload/Confidentiality

The research and analysis to prepare this FMP indicates the effort required to maintain the present reporting requirements of the OFD is continuously growing, along with the growth of the divisions within the OFD. Recent legislative changes necessitate greater effort, record keeping, and reporting on the part of the OFD in order to maintain compliance. Examples of these areas include firefighter training programs and record keeping, fire inspections and issuance of fire code charges and prosecution, invoicing for cost recovery and code enforcement violations, as well as general public reporting. All of these activities are increasing the administrative demands and strain on fire departments across the province.

The growth of the administrative support team in the OFD has not kept up with the workload required to support the increased reporting requirements or the growth of the overall department and the divisions. The Administrative support team has remained the same size since 2010, when the administrative support team was reduced in size by one Administrative Clerk (Fire Prevention). In addition to the administrative support team being reduced by one in 2010, a significant additional workload transitioned to the administrative support team with the retirement of the Analyst – Fire Prevention in January 2018. The Analyst managed all cost recovery invoicing for the MTO and Fees for Services generated by the Suppression Division responses, such as in-town vehicle accident cost recovery and hazardous material response cost recovery. Upon the retirement of this individual, the contract between the Corporation of the Town of Oakville and the Oakville Professional Fire Fighters Association stipulated the position would expire, and the position would be replaced with a fire prevention officer.

This resulted in the workload of this full-time FTE being distributed among the administrative support team members.

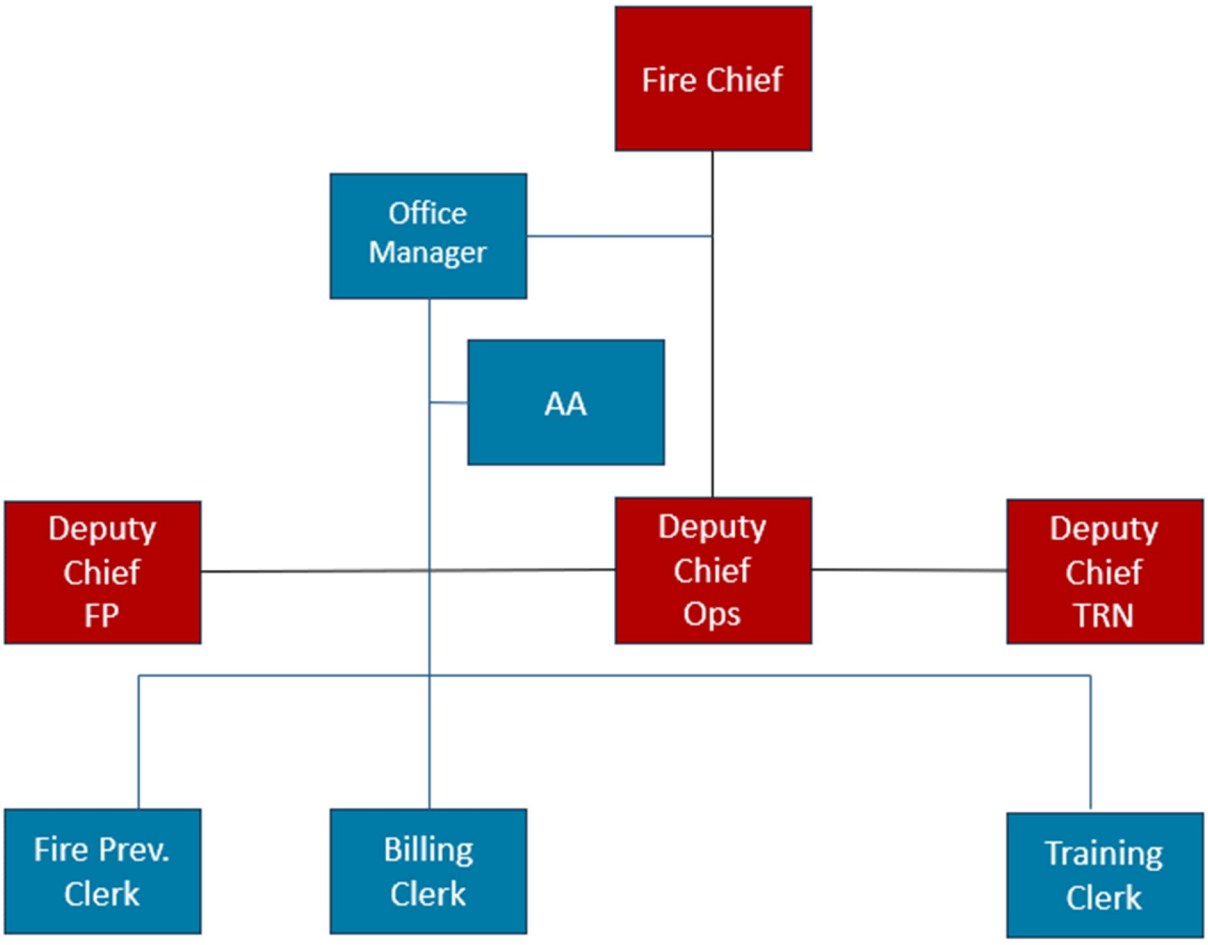
The OFD is primarily funded through the property tax portion of the Town's revenue collection, with a small portion of the OFD's budget relying on fees for service revenue (approximately $300,000). The Administrative Clerk for Training and Prevention is responsible for collecting the required data to support the invoicing, prepare and send out the invoices and reconcile them. This revenue, although very small compared to the overall budget, is relied upon in the OFD's budget. In January/February 2023, a loss of revenue due to late or incorrect information resulted in the rejection by the MTO in the amount of $60,000 of fees for service income. Fees for Service data collection and invoicing is a small but important part of the budget for the OFD.

The OFD, over the years, has managed to do more with less administratively, however, with a 21 % growth of the department over the past 13 years, the reduction of administrative support staff, and the additional duties added to the team in January 2018, a significant strain has been put on the Administrative Support team to manage all of their current workload and responsibilities.

Through the analysis of the Administrative Support team, we recommend that consideration be given to restructuring the Administrative Support Team for the OFD. This should be done in concert with the review of the Fire Management Team workload to ensure any commonalities between the two are connected in the restructuring.

A proposed Administrative Support Team structure is identified in Figure 5 below.

Figure 5: Proposed Administrative Support Team Structure



The suggested model to manage the administrative support team and provide capacity for the needs of the growing OFD would be to:

- Split the workload of the Fire Prevention and Training Administrative Clerk into two positions, with a dedicated administrative resource to support each respective division. This will be important in the future as the Fire Prevention Division moves their office space from the Training facility grounds to the future permanent Fire Station 9 and the workspace of these two divisions is no longer shared. The administrative support for each division would then be located with their assigned division.
- Create a Billing Clerk position to manage all fees for service invoicing, and reconciliation, and manage all public inquiries and complaints for fees and services.

This will centralize all fees for service processes to one individual to manage and answer public inquiries and or complaints.

- Fill the current Data Analyst/Software Support position as recommended in the 2016 FMP to ensure the department's software is maintained and to provide empirical data for the department's key performance indicators (KPIs) and decision-making.
- Maintain one Administrative Assistant for Fire Administration and convert one of the existing Administrative Assistants into an Office Manager who would be responsible to manage and supervise the overall Administrative Support team for the OFD and provide administrative support for human resource and finance related functions of the department.

With the reorganization, it is vital to establish a cross-training program for the Administrative Clerks, Billing Clerk, and Administrative Assistants to ensure there is seamless coverage for all approved leaves to maintain workload continuity.

With the suggested restructuring, it is recommended the OFD undergo a review of the workload of the Fire Management team and current Administrative Support teams to distribute the work to the appropriate positions. The proposed administrative structure would ensure the Fire Chief and Deputy Fire Chiefs are able to become more proactive in their respective divisional assignments and look to develop short, medium, and long-term strategic goals for their divisions. The restructuring would also streamline the work process for the administrative support team and provide divisional staff, such as Chief and ACFPO, Public Educators, Fire Prevention Officers, the Chief and ACTOs and Training Officers more time to be proactive in their responsibilities and spend less time performing clerical work. In our view, the restructuring and creation of these new positions would have significant positive impact on the workload of the personnel in Fire Management and in both the Training and Fire Prevention Divisions.

The overall cost to the Town of Oakville for the restructuring the administrative support team would be operating costs associated with two new full-time equivalent (FTE) positions (e.g., Administrative Clerk and Billing Clerk), filling the Data Analyst position, and the salary differential between an Administrative Assistant and an Office Manager. A potential offset of the Billing Clerk position salary and benefits could be achieved through a business model where the revenue collected through the Fees for Service invoicing would support the salary and benefits for the position or multiple positions established in the reorganization.

Recommendation #2: That consideration be given to the reorganization of the Administrative Support team as identified in within this FMP.

5.5 Municipal By-laws

Municipalities are permitted to create By-Laws for the operation of their fire departments and other municipal services, as outlined in the Municipal Act and the FPPA. By-laws serve as a means of communicating the level of service that a municipality intends to provide to its community, as well as granting municipal staff the authority to provide such services while ensuring that they meet the prescribed service standards. Some common By-Laws for a municipal fire department include the Establishing and Regulating By-Law, Appointment By-Laws, and Fees for Service By-Laws.

5.5.1 Establishing and Regulating By-Law **2019-071**

A municipality's council has the power to create and regulate a fire department by passing a by-law under the Municipal Act and Fire Protection and Prevention Act. The Establishing and Regulating By-law (E&R By-Law) for the fire department should align with the council's goals for the operation of fire protection services. PFSG 01-03-12 “Sample Establishing and Regulating By-law” prepared by the OFM includes a summary of the key topics to be addressed as well as a model for creating an E&R By-Law.

The primary areas identified by the OFM to be included in an Establishing and Regulating By-law are:

- General functions and services to be provided.
- The goals and objectives of the department.
- General responsibilities of department members.
- Method of appointment to the department.
- Method of regulating the conduct of members.
- Procedures for termination from the department.
- Authority to proceed beyond established response areas.
- Authority to effect necessary department operations.

The Town of Oakville By-law 2019-071 (attached as Appendix B) establishes and regulates the Oakville Fire Department. In our view, the current by-law references the areas identified by PFSG 01-03-12.

The E&R By-Law was last reviewed and revised in February 2021, where an amendment was added to the By-Law updating Schedule A "Specialized Emergency Response".

Through our analysis for this FMP, there are several areas where the Town should consider further amendments. For example, the review of Approved Policies and Procedures should be completed over a five-year cycle to ensure the policies and procedures maintain currency.

With the requirement of O. Reg. 343/22 – Firefighter Certification, Council's approved levels of service outlined in Schedule A of the E&R By-Law should reference a specific level of service based on the Fire Department's current training levels, the corresponding applicable NFPA standard(s) and the department's standard Operating procedures for each discipline.

Operational Recommendation #3: That subject to Council's consideration and approval of the FMP, the Establishing and Regulating By-law 2019-071 be reviewed and updated as required.

5.5.2 Appointment By-Laws **2020-078** and **2020-126**

The Town of Oakville Appointment By-laws 2020-078 and 2020-126 (as amended with By-Law 2021-129), reference the appointments of the Town's Fire Chief and three Deputy Fire Chiefs respectively and provides all the powers, rights and duties conferred on their positions by law and the Council of the Town of Oakville.

Having appointment By-Laws is consistent with the provisions of the FPPA in order for a council to designate the individuals assigned to these positions and to provide them with the authority to fulfill their roles and responsibilities under the FPPA.

It is recommended that the current By-Law 2020-126 as amended be reviewed and revised to reflect the current Deputy Fire Chief appointments for the Town of Oakville.

Operational Recommendation #4: That subject to Council's consideration and approval of the FMP, the Appointment By-Law 2020-126 be reviewed and revised as

required to reflect the current Deputy Fire Chief appointments for the Town of Oakville.

5.5.3 Regional Mutual Aid By-law **2002-101**

Through our review for this FMP, it has been determined that the Town of Oakville's Regional Mutual Aid By-Law 2002-101 is dated. The Province of Ontario's Mutual Aid Plan (MAP) went through a significant revision and was finalized in 2018 which outlines the mandatory sections required to be completed in a regional mutual aid plan. Appendix J of the MAP provides for a template for participating municipalities to utilize in drafting a By-Law for the participation in their regional plan. It is a requirement and a best practice for each participating fire department to have their Municipal Council approve the Mutual Aid Plan and their fire departments participation by passing a By-law. The by-law would authorize the OFD to leave the municipal boundary at the discretion of the Fire Chief to respond to calls for assistance from other municipal fire departments as outlined in their regional plan.

Operational Recommendation #5: That subject to Council's consideration and approval of the proposed FMP, that the Fire Chief prepare a report for Council's consideration to receive the Regional Mutual Aid Plan and pass an updated By-law authorizing the OFD's participation in said plan.

5.5.4 Municipal Fees and Charges

The Town of Oakville through their annual budget process has Council pass a Rates and Fees schedule which enables the Town to recover costs for the provision of various departmental services. The recoverable rates and fees approved by Council for the fire department are identified in the annual Municipal Budget document and available for viewing on the Town's Website. Our review for this FMP indicates the Town of Oakville Fire Department is meeting best practices for fees and charges with their extensive list of fees for service. It is also recommended the Town of Oakville review the rates for the services outlined in the Fees for Service annually to ensure they reflect the actual cost of staff time spent performing the associated task(s).

Operational Recommendation #6: That the OFD perform a review of actual time spent to perform the associated tasks outlined in the Fees for Service schedule and the current rates based on recovery of staff time.

5.6 Agreements

Within the fire service there are multiple approaches to sharing services or procuring services, including mutual aid, automatic aid, and fire protection agreements. The agreements, to which the OFD is a party, are outlined in the following section.

5.6.1 Mutual Aid Agreement

The Oakville Fire Department is a participant in the Halton Regional Mutual Aid Plan. As the largest municipality within the Region, the OFD could be called upon to support other fire departments within the Region or request assistance themselves.

Mutual aid agreements are predetermined plans that allow a participating fire department to request assistance from a neighbouring fire department. PFSG 04-05-12 Mutual Aid, provided by the OFM, identifies the information required to develop and approve these agreements.

There are two main scenarios when mutual aid agreements are activated:

1. A fire department may ask for mutual aid assistance when it is at the scene or has information that immediate assistance is required.
2. Fire departments may immediately request a simultaneous response from a participating fire department where distance and/or conditions dictate.

Mutual Aid Plans and the Regional Fire Coordinators also provide the point of access for municipalities to request assistance from the Provincial Emergency Operations Centre (PEOC) in instances such as responding to hazardous materials incidents, including chemical, biological, radiological or nuclear (CBRN) incidents.

Assistance under a mutual aid agreement is reciprocal, and normally there are no fees involved for response. Mutual aid agreements are not intended to be used for day-to-day response, but rather for extraordinary emergencies which exhaust or exceed the response capabilities of a fire department.

At this time, the Fire Chief for the Town of Oakville is the Regional Fire Coordinator. A best practice in the fire service is to have the coordinator's role rotated between the participating municipalities in the Region. This rotation permits other municipalities' representatives the opportunity to learn and gain valuable experience, as well as share the workload of the Regional Coordinator responsibilities, revising the Mutual Aid Plan

annually and acting as the coordinator during a regional emergency. The current practice in Halton is to rotate the Fire Coordinator position every two years. The current Mutual Aid Plan was last updated in 2017 and references to the Oakville Fire Department are out of date and in need of revision to reflect current conditions. The OFD should undertake a review of the Mutual Aid Plan with respect to the detailed information regarding OFD and submit updates to the regional MAP.

Operational Recommendation #7: That the OFD review the 2017 Regional Mutual Aid Plan and update the relevant Oakville Fire Department information.

5.6.2 Dispatch Service Agreement

The emergency call taking and emergency dispatching of fire apparatus for the Town of Oakville is under contract with the City of Burlington. The term of the agreement is from November 12, 2018, through November 12, 2023.

The dispatching of emergency calls has two standards: NFPA 1061 and 1221. NFPA 1061 is a standard for the certification of the dispatchers in their job performance, and NFPA 1221 is the standard for the efficient call taking and dispatching of emergency calls. Both standards are best practices for the dispatching of fire services. The current agreement with the City of Burlington currently only references NFPA 1221 and is absent of language referencing NFPA 1061.

NFPA 1221 and 1061 are currently being consolidated into new standard, NFPA 1225: Standard for Emergency Services Communications. The OFD should work to have the agreement amended for the new term commencing November 12, 2023, to include the references to NFPA 1225 as the performance standard for dispatching services.

The Canadian Radio-Television and Telecommunications Commission (CRTC) has ordered the implementation of the NG 911 networks and services in Canada through the Policy CRTC 2017-182. This change is a significant change to the infrastructure, methods, workflows, and systems supporting the emergency services in Canada. Although Oakville contracts out their dispatching services to the City of Burlington, Oakville has taken a proactive step in engaging Esri Canada to review Oakville's GIS data to ensure it is ready for the NG 911 change. This preparation will ensure Oakville is prepared for their part of the NG 911 implementation.

Operational Recommendation #8: That the Town of Oakville negotiate references to NFPA 1225 into the next term of the agreement for the Dispatch Service Agreement with the City of Burlington.

5.6.2.1 Tiered Response Agreement

The history of tiered response agreements relates directly to the development of the provincial-wide 911 system. Within the Town of Oakville, the current tiered response agreement defines the levels of services and authority for OFD to respond to emergency medical incidents in support of the Region of Halton Paramedic Services that are dispatched through the provincially managed Central Ambulance Communications Centre (CACC). The current Tiered Response Agreement was reviewed and updated in August of 2011, with the current Appendix A "Tiered Response Notification Criteria undergoing a significant change in early 2023 as a result of the implementation of the Medical Priority Dispatch System (MPDS) in Halton Region. The notification for fire to respond to the new MPDS call types continues to be reviewed and negotiations between the Halton Region Paramedic Services and the Oakville Fire Department are ongoing with the intent to increase the types of calls the OFD is dispatched to under the agreement.

In all cases, a tiered response of the Oakville Fire Department is to occur on a ninetieth percentile notification time target of no greater than 60 seconds from when the call is committed based on the identified criteria.

Data provided by the OFD indicates that Oakville Fire Department responded to 8,111 emergency calls in 2022 which represent an increase of approximately 16% over 2021 call volume. Tiered Response Medical calls in 2022 represented 4,365 of the 8,111 calls or 53% of the overall call volume which represents an increase of 18.5% over the 2021 medical calls (3,681). This increase could be attributed to the return to pre-COVID-19-Tiered Response Medical protocols that were significantly reduced during the declared COVID-19 pandemic time frame.

5.7 Operating Policies and Procedures

The OFD has an extensive list of Standard Operating Policies and Procedures (SOPs) to provide direction to staff within all divisions of the fire department. Our review of the documents indicates the OFD uses policy documents to communicate directions to

follow regarding subject matter which relates to corporate controlled policies, and SOPs to communicate direction to staff on how a specific task should be completed safely and effectively.

PFSG 04-69-13 Co-ordination, Development, Approval, and Distribution of Standard Operating Guidelines for Various Disciplines, describes a guideline as "a statement written to guide the performance or behaviour of departmental staff, whether functioning alone or in groups." The intent of Operating Guidelines can be summarized as to:

- Enhance safety;
- Increase individual and team effectiveness;
- Improve training efficiency;
- Improve orientation for entry-level staff;
- Improve risk management practices;
- Prevent/avoid litigation;
- Create objective post-incident evaluations; and
- Permit flexibility in decision making.

PFSG 04-69-13 speaks specifically to guideline development, approval, and distribution, however, the process is also applicable to policy and procedures processes. Review and revision of policies and procedures is a best practice for departments to undertake on regular set intervals. Currently the OFD's procedure 1-1 outlines the statement of intent for their policies and procedures and identifies policies and procedures will be reviewed semi-annually and or amended when required as a result of impute from Post Incident Analysis Reviews (PIARs), training advancements, near miss investigations, or any other change that will improve the service to the community. The time frame of semi-annual is an aggressive review period for the number of policies and procedures the OFD currently has on file. A best practice is to set goal of reviewing all policies and procedures over a set period, as an example, over a five-year time frame, with the intent to review, revise, and consolidate the documents. This will provide for a more manageable number of policies and procedures to review each year.

5.8 OFD Benchmarking and Annual Reports

The OFM's "Optimizing Public Fire Safety" model recognizes the importance of ongoing monitoring, evaluation, and revisions to the fire protection services approved by Council.

As part of the monitoring and evaluation process, OFD should identify appropriate suppression comparator performance benchmarks. Section 9.2 of this FMP presents the industry guidelines and standards that inform fire suppression benchmarks most commonly referenced for career fire services and urban areas, such as OFD and the Town of Oakville.

Many fire services use annual reports to provide a high degree of accountability and transparency. These reports serve as a tool for the fire chief to report to the community and council on the level of fire protection services provided. This regular reporting process is also a great opportunity to report on key performance indicators, update fire-related by-laws, and identify changes or trends within the community, providing further value to the community.

The 2016 FMP recommended the department develop and submit an annual report to Council on the activities of the OFD. At this time, the 2016 recommendation has not been achieved. It is recommended that the Oakville Fire Department develop an annual report and present it to Council and to the public to inform them of the extensive list of activities the department performs in any given year. An annual report will provide the OFD with a valuable tool to communicate their activities to address the department's efforts in addressing the three lines of defence (Fire Strategic Goal 2); Public Education and Fire Prevention, Fire Safety Standards and Enforcement and Emergency Response.

Operational Recommendation #9: That the OFD establish fire suppression comparator performance benchmarks for the defined urban area based on NFPA 1710 and to use them to monitor and report to Council and the community.

Operational Recommendation #10: That the OFD prepare and submit an annual report to Council.

5.9 Post-Traumatic Stress Disorder Prevention Plan

First responders, including firefighters, are at an increased risk of suffering from Post-Traumatic Stress Disorder (PTSD) due to the nature of their work. Supporting Ontario's First Responders Act requires fire departments to establish a PTSD and provide the Ministry of Labour with information about their plans. Under the Supporting Ontario's First Responders Act, there is a presumption that a diagnosis of PTSD for certain workers is work-related. Details relating to the Plan are to be shared within the workplace in an effort to prevent PTSD. As an employer of workers covered by the Supporting Ontario's First Responders Act, the Town of Oakville is required to have a Post-Traumatic Stress Disorder Prevention Plan.

Our research indicates that the Town of Oakville created their PTSD Prevention Plan in 2017 as required and undertook a revision of the plan in March of 2023. The plan provides an overview of the risk factors, signs, and symptoms of PTSD, PTSD prevention, early intervention and recovery and return to work initiatives. The OFD also has a Peer Support Team, which provides immediate and ongoing support to crews that have responded to traumatic events, as well as being able to provide numerous external sources of help. The Town of Oakville is currently compliant with the Supporting Ontario's First Responders Act.

The OFD has two SOPs which manage the Peer Support Team activities. SOP 14-1 outlines the department's Peer Support Team Program and the committee's activities, while 14-2 outlines the procedures to be taken if there is a need to activate the peer support team and critical incident discussions/debriefings. Both SOP 14-1 and 14-2 were authored in 2018 as part of the Post Traumatic Stress Prevention Plan. A best practice for the OFD would be to review the two SOPs to ensure they reflect the 2023 revised PTSD Plan.

Behavioural health is a critical component that requires funding and employer support to impact workplace wellness positively. This aligns with Council's People Plan key objective' that strives to support a healthy work environment. The OFD is encouraged to continue to enhance its current program. This should include investigating other research and standards, such as the National Standard of Canada CAN/CSA-Z1003-13 'Psychological Health and Safety in the Workplace.' This is a voluntary standard that specifies requirements for a documented and systematic approach to developing a

psychologically healthy and safe workplace. The key components of compliance with this Standard are:

1. A workplace stress audit;
2. Mental Health training for supervisors;
3. A crisis response plan; and
4. An internal support system.

Since the inception of the Supporting First Responders Act in 2017, the OFD has met the requirements of the act and in addition added the Peer Support Team and SOPs to help assist their employees. The OFD has also grown since the inception of the Act and will continue to grow into the future. This growth in the department along with the education and early identification of symptoms, with require the OFD to grow their program in an effort to proactively manage future PTSD illnesses. A positive example of growth and proactive response to increased PTSD cases is the Halton Regional Police Department (HRPD) and their proactive approach to managing workplace stress. The OFD would benefit from a thorough review of the HRPD program and consider scaling the HRPD program to fit the OFD needs. The future addition of clinician oversight to their program and potentially part-time/fulltime staff to proactive manage the program and implement mitigation strategies would be beneficial. An additional option to add value to the OFD PTSD program would be to consider reaching out to HRPD and determining if there is an option of partnering with them for the services HRPD has already in place. In addition to PTSD support, there is a growing need in the fire services for fire departments to support the general mental health of staff. The OFD would benefit from the development and implementation of a mental health and wellness support program for its members.

Operational Recommendation #11: That OFD develop and implement a mental health and wellness support program.

5.10 Records Management/Information Technology

Council Key Objective Technological and Data Management Opportunities states that the Town aims to become the most digitally connected community in the Greater Toronto Area (GTA) and is focused on achieving a connected community in the areas of online services; partnerships and data management; and digital infrastructure. This

aligns well with the theme in this FMP to improve the OFD's data management/ application, software resources and general information technology.

The Oakville Fire Department currently utilizes several records management software programs to document the day-to-day activities of the department of which are not integrated.

FDM software is currently being use in Oakville to capture emergency call data that is transfer from the Burlington Fire Department's Computer Aided Dispatch (CAD) software (Symposium). The program has been in use in Oakville for many years and user support has not been good from the fire department's perspective for some time. It is anticipated that the software will reach end of life for support by the end of 2023. Oakville is currently engaged in discussions with the regional fire departments to procure a new RMS software for emergency call data use. It is recommended that the OFD proactively seek to procure a new software program that will replace the current RMS program, meet their current and future needs, and address compatibility with Burlington Fire Dispatch CAD software who dispatches for the OFD.

Operational Recommendation #12: That the OFD seek to procure a new Records Management System software program as identified in this FMP.

Oakville currently utilizes Locution software as their automated station alerting system along with Sinirji, which is linked to Burlington Dispatch CAD to track their front-line apparatus. Oakville is looking to utilize an Automatic Vehicle Location (AVL) software in the future to track their fire apparatus and provide closest unit response capabilities to provide a quicker response to emergency calls.

Vector solutions software is utilized in Oakville to capture all training records, Ministry of Transportation (MTO) Schedule 1 inspections, apparatus, and inventory checks and provide an electronic document library for the department.

The process of documenting and reporting of faults to equipment, apparatus/ vehicles and stations is managed through the Corporate Information System (CIS by Oracle). This software enables the user to detail the issue and electronically send the fault in to report the issue. The software system then sends out an email to the responsible party for managing the specific area of concern where it can be addressed, and the necessary repairs/replacement scheduled.

Telestaff is a software program utilized by the OFD to manage their attendance, scheduling, vacation, and lieu shifts selections as well as the initial payroll documentation. The system is designed to be a self-service software where the employee selects their vacation and lieu time based on pre-determined rules set out in the software. The rostering or scheduling software tracks the station assignments as determined by the Platoon Chief based on vacancies created by vacation, lieu illness etc. for any given shift which can be viewed by the firefighters for upcoming station assignments. The software tracks payroll exceptions for employees who work overtime, act in the capacity of an officer and other miscellaneous administrative assigned codes. Currently the department's Administrative Assistant responsible for the software exports the data every two weeks to an excel format and then sends the data off to finance for payroll calculations. Then software is designed to be compatible with the Towns' current finance software, which could make the data payroll information exchange automatically through an interface which would provide and efficiency to the administrative operations.

It is recommended that the OFD investigate developing an interface with the Town of Oakville's finance software to create a seamless transfer of payroll and attendance data to improve the efficiency of this administrative task.

Operational Recommendation #13: That the OFD investigate the creation of an interface between Telestaff and the Town's financial software to automate the administrative tasks as identified in this FMP.

An important component of fire department administration is overseeing records management and reporting. PFSG 04-60-12 Records Management provides a comprehensive overview of an effective and efficient records management program including the appropriate use and protocol by division of the records management systems in place; record retention schedules; standards for record quality; protocols for record security and integrity of hard-copy and electronic records; and outline other applicable codes, standards or industry best practices that apply (e.g., Municipal Act, 2001, Municipal Freedom of Information and Protection of Privacy Act, 1990).

The retention practices of the OFD are governed by the Town's Retention By-Law 2021-130, which outlines records management retention requirements for all records within the care and control of the Town of Oakville.

During our review of the current OFD policies and procedures, we did not identify an internal guiding document for the management of fire service documents and records within the department. Records management plays a role in every division of a fire department for a variety of reasons including, but not limited to, operations emergency response, firefighter training records, as well as measuring the effectiveness of fire prevention and public education programs. It is recommended the OFD develop a Policy that is consistent with the Town of Oakville Records Retention By-Law that assists staff with the required records retention practices of the Town of Oakville.

Operational Recommendation #14: That the OFD develop a department policy, consistent with the Town's Retention By-law 2021-130, that describes the required records management practices for each division within the OFD.

5.11 Administration Division Summary

The review of the Administration Division under the leadership of the Fire Chief three Deputy Chiefs oversee four divisions that support and deliver a wide range of public education, prevention, enforcement, fire, rescue, and Emergency Management services to the citizens of Oakville.

As the Town of Oakville continues to grow, legislation changes, standards and citizen expectations increase, the pressure to deliver on council's approved levels of service and strategic priorities will increase. In our view to assist the Fire Chief and his management team, the following recommendations are presented for consideration and approval:

5.11.1 Recommendations

Recommendation #2: That consideration be given to the reorganization of the Administrative Support team as identified in within this FMP.

5.11.2 Operational Recommendations

Operational Recommendation #1: That the job descriptions for Oakville Fire Department's Senior Management Team be reviewed and revised to clearly define the roles and responsibilities for their current duties.

Operational Recommendation #2: That the job descriptions for all positions covered by the Oakville Professional Firefighters Association be reviewed and updated.

Operational Recommendation #3: That subject to Council's consideration and approval of the FMP, the Establishing and Regulating By-law 2019-071 be reviewed and updated as required.

Operational Recommendation #4: That subject to Council's consideration and approval of the FMP, the Appointment By-Law 2020-126 be reviewed and revised as required to reflect the current Deputy Fire Chief appointments for the Town of Oakville.

Operational Recommendation #5: That subject to Council's consideration and approval of the proposed FMP, that the Fire Chief prepare a report for Council's consideration to receive the Regional Mutual Aid Plan and pass an updated By-law authorizing the OFD's participation in said plan.

Operational Recommendation #6: That the OFD perform a review of actual time spent to perform the associated tasks outlined in the Fees for Service schedule and the current rates based on recovery of staff time.

Operational Recommendation #7: That the OFD review the 2017 Regional Mutual Aid Plan and update the relevant Oakville Fire Department information.

Operational Recommendation #8: That the Town of Oakville negotiate references to NFPA 1225 into the next term of the agreement for the Dispatch Service Agreement with the City of Burlington.

Operational Recommendation #9: That the OFD establish fire suppression comparator performance benchmarks for the defined urban area based on NFPA 1710 and to use them to monitor and report to Council and the community.

Operational Recommendation #10: That the OFD prepare and submit an annual report to Council.

Operational Recommendation #11: That OFD develop and implement a mental health and wellness support program.

Operational Recommendation #12: That the OFD seek to procure a new Records Management System software program as identified in this FMP.

Operational Recommendation #13: That the OFD investigate the creation of an interface between Telestaff and the Town's financial software to automate the administrative tasks as identified in this FMP.

Operational Recommendation #14: That the OFD develop a department policy, consistent with the Town's Retention By-law 2021-130, that describes the required records management practices for each division within the OFD.

6.0 Emergency Management

As a part of the fire master planning process, the fire department's roles and responsibilities in the emergency management program of the Town of Oakville were evaluated. The legal framework for emergency management in Ontario is established in the Emergency Management and Civil Protection Act (EMCPA), which is supplemented by O. Reg. 380/04 – Standards. This regulation outlines the minimum standards required by municipalities and provincial ministries for emergency management programs. This section of the FMP follows the appropriate legislation and industry standards and presents a summary of the emergency preparedness, planning, and management activities that are taking place within the Town of Oakville.

6.1 Compliance with Provincial Legislated Requirements

Under the EMCPA, the Solicitor General has the authority to make regulations which set the standards for the development, implementation and maintenance of emergency management programs required by every municipality. It further requires that every municipality, minister of the Crown, and designated agency, board, commission, and other branch of government ensure their emergency management programs and emergency plans conform to the standards set within the Act. To verify compliance with the EMCPA, municipalities are required to annually review and submit supporting documentation which may include:

- Emergency Response Plan (ERP);
- Proof of training;
- Proof of exercises;
- Evidence of public education program;
- Municipal Hazard Identification Risk Assessment (HIRA);
- Critical Infrastructure (CI) List; and
- Emergency Management Program By-law.

After consulting with OFD management, the Town has confirmed that it is compliant with the Emergency Management and Civil Protection Act for 2022.

6.2 Town of Oakville Emergency Management Plan

Oakville's emergency management program was developed under authority By-law No. 2018-003. The Emergency Plan provided for review as part of this FMP was the 2019 public version. Currently the 2019 plan is under review, and it is our understanding a comprehensive revision to the plan is expected to be completed and presented to Council in early 2024.

6.3 Training and Annual Exercise

The EMCPA requires municipalities in Ontario to train staff involved in the jurisdiction's emergency management program. Courses are available through Emergency Management Ontario (EMO) based on best practices and principles across Ontario. EMO administers courses in the areas of Incident Management Systems, Exercise Program Management, Note Taking, Basic Emergency Management (BEM) and Community Emergency Management Coordinator (CEMC) training.

The most current guidance provided to municipalities with respect to emergency management training is dated November 24, 2021, which specifies the following four courses as mandatory for CEMCs:

1. Basic Emergency Management (EM 200);
2. Community Emergency Management Coordinator (EM 300);
3. Introduction to Incident Management System (IMS 100) available online; and
4. Basic Incident Management System (IMS 200).

Under O. Reg. 380/04 Community Emergency Management Coordinators are required to complete the required training within one year of being appointed at CEMC.

Municipal Emergency Control Group members are required on an annual basis to demonstrate:

- Knowledge of all components of the Emergency Management program, including the HIRA and Critical Infrastructure list;
- Knowledge of the Municipal Emergency Plan, including their respective roles and responsibilities, as well as the roles and responsibilities of local agencies and organizations included in the Plan;

- Knowledge relating to the procedures required to activate and operate under the Municipal Emergency Plan;
- Knowledge of notification procedures for the Municipal Emergency Control Group (MECG) when the Plan is activated; and
- Knowledge of the location, and equipment utilized in the Emergency Operations Centre (EOC).

The Town of Oakville has taken a proactive approach towards emergency management training for its staff who are assigned roles in the Emergency Operations Centre or act as their alternatives. It is highly important to continue ongoing training so that all personnel responsible for operating in an EOC are well-trained to ensure an effective and efficient collective response to any municipal emergency.

In order to ensure preparedness, the EMCPA mandates that every municipality conducts an annual emergency exercise. This exercise involves simulating emergency situations, which helps the EOC team to become proficient in responding to emergencies. By conducting emergency exercises, municipalities can test their emergency response plans and procedures, as well as validate the capabilities of those responsible for preparing and responding to emergency situations.

6.4 Public Education Program

The EMCPA requires municipalities to provide emergency preparedness education to the community. The Town website provides emergency preparedness information, including:

- Emergency communication information via social media platforms such as Facebook and Twitter;
- Information on the Town of Oakville's Emergency Alerts Updates and links to other emergency management agencies; and
- Information relating to emergency kits, care for people and pets at home and the Public Emergency Management Plan.

Where possible, the fire department should continue to utilize its expertise and resources to increase the emergency preparedness messaging throughout the community.

The OFD could also consider using its Home Awareness door to door program as a means to distribute emergency preparedness information, in addition to smoke alarm and fire safety materials, as another means to proactively reach the Town's residents.

6.5 Hazard Identification and Risk Assessment

In 2019 the Office of the Fire Marshal and Emergency Management (OFMEM) released the "Hazard Identification Report" and "Methodology Guidelines" outlining a process for the development of a HIRA Program, to assist municipalities in assessing their local hazards and potential risks. This methodology includes consideration of the following steps:

1. Plan;
2. Identify Hazards;
3. Build Community Knowledge;
4. Assess Risk; and
5. Report and Follow-up.

Municipalities are required to review the HIRA on an annual basis and update as needed. The Town of Oakville updated its HIRA in 2023 utilizing the 2019 OFMEM's HIRA methodology guidelines.

6.6 Critical Infrastructure

The Province of Ontario defines critical infrastructure as "interdependent, interactive, interconnected networks of institutions, services, systems and processes that meet vital human need, sustain the economy, protect public safety and security, and maintain continuity of a confidence in government." [6] The EMCPA requires municipalities to identify critical infrastructure. O. Reg. 588/17 – Asset Management Planning for Municipal Infrastructure also requires municipalities to have plans in place to address vulnerabilities affecting certain municipal infrastructure assets; levels of service; maintenance schedules; adaptation opportunities and, amongst other things, disaster planning and contingency funding. Ensuring the Town's CI is protected from

[6] Source: "Critical Infrastructure", Ministry of the Solicitor General, last modified April 19, 2017.

vulnerabilities, whenever possible is vital to the resilience of the community. This requires proactive and strategic measures.

The Town of Oakville has created a prioritized list of its assets and infrastructure that are critical to the health, safety, security, and economic well-being of its citizens. For the purposes of the FMP, the concerns related to the CI were reviewed as they would pertain to the provision of fire protection in the Community Risk Assessment section of this document. The CI document is restricted from the public domain and is appended to the Municipal Emergency Plan.

6.7 Emergency Operations Centre

According to the Incident Management Systems for Ontario Resource Manual, "the ability to coordinate incident support is dependent on having a facility with the capabilities to monitor the incident responses, and to communicate with Incident Command."[7] This support is typically coordinated through an Emergency Operations Centre.

The Town of Oakville's EOC is located at Town Hall with the alternate EOC located at Queen Elizabeth Park Community Centre. The facilities have appropriate computer and communications technology, alternative power sources, as well as resources and redundancies to operate effectively during extended emergency operations.

6.8 Emergency Management Staffing

In addition to his roles and responsibilities under the FPPA, the Fire Chief is also the Town-designated CEMC. The CEMC is responsible for ensuring sustained compliance with the EMCPA and O. Reg. 380/04, which sets out the minimum standards for emergency management programs.

It is incredibly challenging for one person to act in both an operational role as Fire Chief while also acting in an operational role in the EOC. This arrangement requires one

[7] Source: "Incident Management Systems for Ontario," Ministry of the Solicitor General, last modified May 25, 2016, https://www.emergencymanagementontario.ca/english/emcommunity/ProvincialPrograms/IMS/Resources/ims_doctrine.html

person to split his or her focus, attending meetings of the MECG while also making complex decisions about operational deployments as the Fire Chief. Currently the Deputy Fire Chief (Fire Prevention, Public Education and External Stakeholder Engagement) is appointed as the Alternate CEMC, should the Fire Chief be unavailable. While this model does provide for some contingency, in our view, there would be value in appointing the Deputy Fire Chief as the CEMC and the one of the other Deputy Fire Chiefs as the Alternate CEMCs for the purpose of redundancy and succession planning purposes.

The Emergency Management portfolio for the Town of Oakville is assigned to the fire department to manage. The CEMC designation sits with the Fire Chief, however, the Emergency Management program has historically been assigned to one of the OFD's Deputy Fire Chiefs. In the past the department had a Deputy Chief who managed the EM portfolio as part of their responsibilities with facilities maintenance and construction for the fire department. The Deputy was also supported by a contract employee to manage the EM program and training initiatives. Currently, the EM portfolio and associated workload throughout the year resides with the Deputy Fire Chief (Fire Prevention, Public Education and External Stakeholder Engagement) only. This Deputy also manages the portfolios of fire prevention, inspection and public education, as well as the community outreach initiatives that the OFD is involved with. The regular day-to-day workload of this Deputy Chief position was already heavy, prior to being assigned the added responsibility for emergency management. In our experience, assigning the emergency management workload to any position that is operating at or near capacity will only allow for the minimum program requirements to be met, and does not typically provide an opportunity to address the program proactively.

As mentioned previously, the Town of Oakville is meeting the minimum requirements as set out by the province; however, if the Town wishes to enhance the program above the minimum, the fire department will require additional resources to achieve any enhancements above the minimum requirements. Additional staff resource assistance was provided in the past by the Environmental Policy department to achieve specific program tasks or initiatives. This is an option the Town should review to determine if:

1. these resources are still available from the Environmental Policy department; or
2. the Town needs to look at adding a contract position to assist in managing and or enhancing the EM program and EM training in the Town of Oakville.

Operational Recommendation #15: That consideration be given to revising the appointment of the CEMC as presented within the proposed FMP.

Recommendation #3: That the Town of Oakville review the workload required to sustain the Emergency Management program, along with the Town's Emergency Management objectives, and consider adding staff resources to manage the Emergency Management program as presented in this FMP.

6.9 Emergency Management Summary and Recommendations

The Town of Oakville has developed a comprehensive emergency management program that complies with the minimum requirements of the EMCPA and O. Reg. 380/04. The Town provides training to staff designated to oversee the Town's Emergency Planning process and operational needs. As a result of the review of the Town Emergency Management Program, the following recommendations are presented for consideration.

6.9.1 Recommendations

Recommendation #3: That the Town of Oakville review the workload required to sustain the Emergency Management program, along with the Town's Emergency Management objectives, and consider adding staff resources to manage the Emergency Management program as presented in this FMP.

6.9.2 Operational Recommendations

Operational Recommendation #16: That consideration be given to revising the appointment of the CEMC as presented within the proposed FMP.

7.0 Fire Prevention and Public Education Division

According to the FPPA, “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[8]" and "Provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances"[9] as a minimum legislative requirement for the delivery of fire protection services.

To further assist municipalities in understanding the definition of what the minimal acceptable fire prevention and public education programs are, the OFM developed PFSG 04-40-03 and 04-40-12 Selection of Appropriate Fire Prevention Programs. Although these PFSGs are currently under review, they continue to provide valuable insight into identifying the minimal acceptable fire prevention and public education programs including:

- A simplified risk assessment;
- A smoke alarm program;
- The distribution of fire safety material; and
- Inspections upon complaint, or when requested to assist with code compliance.

In our view, one of the reasons the OFM is presently reviewing all PFSGs, in part, is to ensure that they are current with any legislative changes that may affect the implementation of fire prevention and public education initiatives. Revisions to the regulations for smoke and carbon monoxide alarms, as well as the implementation of O. Reg. 378/18 mandating the development of CRAs by all municipalities, are examples of such modifications.

The analysis within this section has been informed by our knowledge of the current applicable legislation, including the new O. Reg. 378/18 – CRA, the PFSGs developed by the OFM and applicable NFPA standards.

[8] FPPA, 1997 Part II, Section 2. (1) (a).
[9] FPPA, 1997 Part II, Section 2. (1) (b).

In establishing the local "needs and circumstances" for the execution of fire prevention and public education programs within the Town of Oakville, as mandated by the FPPA, this information has been collected and compiled in this FMP.

As stated in O. Reg. 378/18 – CRA, incorporating risk analysis into the fire master planning process gives a municipality the chance to evaluate different community fire risk reduction and mitigation techniques. Enhancing a fire inspection program within a particular building occupancy classification, creating a public education program for a community demographic identified as at-risk, like seniors, or consider local initiatives to introduce residential sprinklers in new and renovated homes are a few examples of strategies to reduce the risk of fire. These kinds of risk mitigation and reduction techniques recognize that there are proactive alternatives to increasing fire suppression capability within a community.

7.1 Fire Prevention and Public Education Industry Best Practices

The most recent legislative requirements and industry best practises should serve as the foundation for the Oakville Fire Department's fire prevention and public education programs. These primarily consist of the mandatory requirements of the FPPA, NFPA 1730 Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education and the NFPA Fire and Life Safety Ecosystem.

7.1.1 NFPA **1730**: **2019** Edition

NFPA has recently updated the Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations. This standard establishes its criteria through six chapters:

1. Organization;
2. Community Risk Assessment;
3. Fire Prevention Inspection and Code Enforcement Activities in Existing Occupancies;
4. Plan Review;
5. Investigations; and
6. Public Education Programs.

The focus of this standard is to ensure that a Fire Prevention Division has a Community Risk Reduction Plan (CRRP) in place and that it is based on the local "needs and circumstances" established through a CRA. A CRRP is then used to establish resources and programs that are designed to mitigate and/or reduce identified fire risk. For example, the NFPA 1730 standard identifies a minimum fire inspection frequency cycle which could be refined based on the local context. The supporting appendices of NFPA 1730 provide exercises to identify staffing resource needs, taking into account required tasks and time demands.

The analysis and methodology included within this FMP integrates the intent of developing a CRRP as referenced within NFPA 1730. Where applicable, this FMP will present risk reduction and risk mitigation strategies to optimize the use of the "three lines of defence" in response to the identified "key findings" and "identified risk" included in the CRA to enhance the existing fire prevention and public education programs and services provided by the OFD, as supported by Fire Strategic Goals 1 and 2 (Section 3.4.1). The focus of the NFPA 1730 Standard is consistent with the current industry trends to further emphasize fire prevention and public education services and programs through the application of the first four "E's" (education, enforcement, engineering, and economic incentive) of community risk reduction and risk mitigation planning.

7.1.2 NFPA Fire and Life Safety Ecosystem

The NFPA Fire and Life Safety Ecosystem is a framework of eight elements that work in conjunction with one another with the collective goal of risk reduction. Together, they promote the prevention of fires and other hazard-related loss, injuries and fatalities. The eight components that comprise this framework include:

1. Government responsibility;
2. Development and use of current codes;
3. Referenced standards;
4. Investment in safety;
5. Skilled workforce;
6. Code compliance;
7. Preparedness and emergency response; and
8. Informed public.

This ecosystem is premised on the notion that the cause of all life safety incidents can be traced back to the breakdown of one or more of these components.

The Fire and Life Safety Ecosystem recognizes that fire prevention is multifaceted and there are various key components that need to work in tandem to cultivate an environment and culture of fire safety. This FMP supports a multifaceted approach to fire prevention and, where applicable, will present strategies to enhance existing fire prevention and public education programs and services provided by the OFD.

7.2 Existing Fire Prevention and Public Education Staff Resources

The current organizational structure of the OFD has one Deputy Fire Chief who is directly responsible for the oversight of all fire prevention and public education activities. The division includes a CFPO, one ACFPO, eight Fire Prevention Officers (FPO), and two Public Education Officers (PEO). The division is also supported by an Administrative Clerk who devotes half of her time in fire prevention and the other half in the training division. The CFPO is directly responsible for all activities within this division including the administration and leadership of all staff assigned to this division.

7.2.1 Chief Fire Prevention Officer

Upon review of the job descriptions provided by the OFD, the roles and responsibilities of the CFPO is:

- to supervise the Fire Prevention Officers by assigning and coordinating fire prevention surveys of all classes of buildings and reviewing their work by receiving, reading and processing their reports and recommendations;
- supervise and assign Fire Prevention Officers to examine building plans for fire safety equipment and report their findings to the Chief Building Official;
- enforces fire prevention by-laws by assigning Fire Prevention Officers to carry out duties under the by-law;
- causes an information to be laid for infractions of the Fire Prevention by-law and acts as a witness in court; and
- coordinates and supervises In-Service Inspection Programs and assigns Fire Prevention Officers to follow up such inspections where necessary.

Additional duties are:

- conducts or assigns Fire Prevention Officers to present lectures to operational personnel, civic and public groups;
- examines or assigns Fire Prevention Officers to examine premises where fire has occurred, in order to determine the cause of fire where necessary;
- prepares a yearly budget for annual report for the Fire Prevention Bureau; and
- performs other related duties and acts as a firefighter when required.

In today's fire service environment, the CFPOs role in Oakville has evolved and grown with the department over the years to become a senior leadership team position within the department, requiring a high degree of technical skills and experience related to the Ontario Building Code (OBC), OFC, and the FPPA.

Some additional roles and responsibilities CFPO's in the province of Ontario are involved in are:

- CFPO is required to be a leader in their department and develop fire and life safety strategies and implement fire and life safety programs.
- Monitor trends with respect to fire cause within their community and province and develop and implement public education and fire inspection programs with the goal of seeking improvements in fire and life safety as well as compliance with all legislative requirements.
- Review fire inspections and fire investigation reports and make recommendations for further action up to and including prosecution.
- As a senior leader in the department, the CFPO will represent their department on various professional associations and corporate committees as required.

The current job description for the CFPO is quite dated and requires updating to reflect the current responsibilities and the leadership role the position of CFPO has evolved into within the Oakville Fire Department. This is consistent with Operational Recommendation #2 contained in Section 5.3.3 of the Administration Division section.

7.2.2 Assistant Chief Fire Prevention Officer

The current organizational structure of this division includes one Assistant Chief Fire Prevention Officer (ACFPO). This position report directly to the CFPO and acts as the CFPO in their absence.

The primary rolls and responsibilities of the ACFPO include:

- Supervision and training of Fire Prevention Officers;
- Enforces the provisions of the Ontario Fire and Building Codes through the conduct of comprehensive fire prevention and safety surveys in all classes of buildings, properties, and occupancies;
- Drafts and type reports of findings and makes recommendations for improvement based on the pertinent legislation;
- Act as an assistant to the Fire Marshal in enforcing the provisions of the FPPA;
- Examines plans for construction of buildings within the Town for compliance with the Ontario Building Code on matters of fire safety and equipment and reports his findings to the Town's Director of Buildings;
- Examines fire scenes in order to determine the cause;
- Assists the Police Department and Fire Marshal's office with investigations;
- Takes photographs of fire scenes, fire hazards, etc.;
- Assists in the promotion of fire prevention through the development and presentation of programs to civic organizations and other groups and speaks on fire safety topics to groups;
- Guide and assist Fire Prevention Officers with complex cases particularly where technical interpretation of the various codes and standards is required; and
- Assist the CFPO with day-to-day operations of the division as necessary.

7.2.3 Fire Prevention Officers

The Fire Prevention Division in Oakville currently employs eight FPOs who report to the Chief and/or ACFPO. Through a review of information provided and according to the latest job description, a summary of the FPOs duties are:

- Enforces the provisions of the Ontario Fire Code through the conduction of comprehensive fire prevention and safety surveys in all classes of buildings, properties, and occupancies;
- Drafts and type reports of findings and makes recommendations for improvement based on the pertinent legislation;
- Communicates recommendations verbally and/or in writing to the affected parties;
- Acts as an assistant to the Fire Marshal in enforcing the provisions of The Fire Marshal's act;

- Examines plans for the construction of buildings within the Town for compliance with the Ontario Building Code on matters of fire safety and equipment;
- Reports his findings to the Town's Director of Building Services;
- Examines fire scenes in order to determine the cause and assists the Police Department and Fire Marshal's Office with arson investigations;
- Takes photographs of fire scenes, fire hazards, etc.;
- Assists in the promotion of fire prevention through the development and presentation of programs to civic organizations and other groups;
- Speaks on fire safety topics to groups; and
- Acts as a firefighter and performs other work when required.

As previously recommended, there is a need to review and revise the existing job description of the Fire Prevention Officer.

7.2.4 Staff Roles and Responsibilities

Through our research and interviews it was determined the fire prevention and public education division has experienced an influx of five new staff over the past three years. The new staff are attributed to staff turnover and the addition of two new FPO positions and one new PEO position. Despite this influx of new staff, the division continues to maintain an overall high level of experience within the division due to the previous work history and training of the incoming FPOs.

Currently all fire prevention personnel are assigned to a “district” which aligns close to the fire station district boundaries. The CFPO is assigned a district and is also responsible to lead and manage the division. This places an enormous workload on the CFPO as he is responsible for all fire prevention activities in his assigned district as well as the responsibilities of divisional supervision and planning. The ACFPO is also assigned a district similarly to the FPOs and manages all fire prevention related activities for his assigned district, as well as some administrative responsibilities day to day when not acting in the position of CFPO.

With respect to FSP review and the approval process, each individual FPO is responsible for reviewing the FSP for their assigned area. According to SOP #4-8 and #4-10 only the CFPO and or the ACFPO are designated by the Fire Chief to perform plan approvals. Where there is an increase in the volume of plans submitted in growth related areas, an

FPO from another district may be assigned to assist in keeping up with the influx of FSPs to ensure a timely review and approval process.

The Fire Prevention Division is supported by a 0.5 FTE Administrative Clerk who is available to the division for approximately 2.5 days per week. The AC works the other 2.5 days per week supporting the Training Division. Based on our research and interviews performed, the Fire Prevention Division had a full-time administrative clerk supporting the division up to 2010 when the existing AC retired. A corporate decision was made at that time not to fill the position and utilize the FTE in another role in the corporation. As a result of this decision, the AC in the training division was assigned the responsibility of covering the Fire Prevention Division for half of their work week. In addition to the division loosing 50% AC support, the prevention team was further reduced with the retirement of the Analyst – (Fire Prevention) in 2018. The Analyst managed all cost recovery invoicing for the MTO and fees for services generated by the suppression division responses, such as in-town vehicle accident cost recovery and hazardous material response cost recovery. This analyst position was not replaced, and the FTE was transitioned into an FPO because of a negotiated agreement with the Oakville Professional Fire Fighters Association. With the reduction of these two positions over the past 13 years, a doubling of staff in fire prevention, the growth the town has experienced resulting in an increased demand for fire prevention and public education services, the division's administrative support has become significantly understaffed. This lack of admin support has created the situation where the FPOs must perform a lot of their own administrative office tasks which consumes valuable time they should be performing additional complaint and requests and proactive fire prevention inspections. A detailed breakdown of the additional requirements for admin support and a recommendation is covered in Section 5.4.1 of the Administrative Division of this FMP.

Recommendation #4: That as part of the reorganization of the Administrative Support Team the OFD convert the 0.5 FTE Fire Prevention/Public Education Division administrative position (currently shared with Training) to an FTE administrative role dedicated to support the Fire Prevention/Public Education Division.

Our review indicates that the current distribution of roles and responsibilities with respect to inspections (except for the CFPO) appears to be working well for the division. The findings of the CRA, including the identification of fire-related risks and the implementation of proposed risk mitigation and risk reduction strategies included within

this FMP, will require further review of the current assignment of roles and responsibilities within this division. One of the most important considerations to undertake would be to ensure the CFPO has the time to be proactive in managing the implementation of the proposed risk mitigation and risk strategies, provide proactive strategic planning for short medium and long-range goals for the division and manage the day-to-day divisional responsibilities. Therefore, we recommended that the CFPO not be assigned an area for fire inspections and in the meantime, a realignment of the district may be required to accommodate this recommendation until an additional FPO is hired to cover the district currently assigned to the CFPO.

Operational Recommendation #16: That the CFPO's day to day responsibilities do not include coverage of a district as outlined in this FMP.

7.2.5 Applicable Training and Certification

In 2013, the OFM announced that the Ontario fire service would be adopting the NFPA Pro-Qual Standards to replace the previous Ontario Fire Services Standards (OFSS.). The previous OFSS had been developed by the Ontario Fire Chiefs Association (OAFC) in partnership with the OFM to provide guidance to the training and qualifications of fire department staff.

To assist municipalities in this transition a "Grandfathering Policy" was developed by the OFM to facilitate the process of implementing the NFPA Pro-Qual Standards. The OFM grandfathering policy stated that "in order to exempt anyone from having to start over in any program and in order to give recognition for training and education-already completed and for experience already gained".[10] The NFPA Pro-Qual Standards were recognized as the industry best practices for training and qualifications related to the delivery of public education and fire prevention programs and services within the Province of Ontario up to April 14, 2022.

On April 14, 2022, the Ministry of the Solicitor General filed O. Reg. 343/22 – Firefighter Certification, requiring all Ontario firefighters to be certified to NFPA Pro-Qual standards over the next four to six years. The definition of a firefighter[11] in the FPPA includes fire

[10] OFMEM 2013 Grandfathering Policy.
[11] FPPA , 1(1).

personnel who undertake fire protection services. Fire protection services[12] is further defined in the FPPA to include the provision of fire prevention and fire safety education, therefore fire prevention officers are covered by the provision of O. Reg. 343/22 and the compliance deadlines.

In summary, regardless of the department's existing training and "qualifications", Ontario's new firefighter legislation will require departments to have their firefighters certified to the prescribed NFPA standards, ensuring that such certification is issued by the OFM, International Fire Service Accreditation Council (IFSAC), or a Pro Board seal. A detailed explanation of the changes to the training and certification of fire department staff is outlined in the Training Division section of this FMP.

7.2.6 Applicable NFPA Pro-Qual Standards

The applicable NFPA Pro-Qual Standards as they pertain to roles and responsibilities of fire prevention and public education staff are outlined in Table 8. These standards reflect O. Reg. 343/22 – Firefighter Certification requirements and compliance dates.

Table 8: Applicable NFPA Pro-Qual Standards

NFPA Standard	Qualification	Description	Compliance Date
NFPA 1031 – Standard for Professional Qualifications for Fire Inspector and Plans Examiner	Fire Inspector I	All job performance requirements of NFPA 1031, "Standard for Professional Qualifications for Fire Inspector and Plan Examiner", 2014 Edition, Chapter 4 (Fire Inspector I).	July 1, 2026

[12] FPPA, 1 (1)(a).

NFPA Standard	Qualification	Description	Compliance Date
NFPA 1031 – Standard for Professional Qualifications for Fire Inspector and Plans Examiner	Fire Inspector II	All job performance requirements in item 19 and NFPA 1031, "Standard for Professional Qualifications for Fire Inspector and Plan Examiner", 2014 Edition, Chapter 5 (Fire Inspector II).	July 1, 2026
NFPA 1033 – Standard for Professional Qualifications for Fire Investigator	Fire Investigator	All job requirements of NFPA 1033 "Professional Qualifications for Fire Investigator", 2014 Edition, Chapter 4 (Fire Investigator).	July 1, 2026
NFPA 1035 – Standard for Professional Qualifications for Fire and Life Safety Educator	Fire and Life Safety Educator I	All job performance requirements of NFPA 1035 "Standard on Fire and Life Safety Educator, public Information Officer, Youth Fire Setter Intervention Specialist, and Youth Fire Setter Program Manager Professional Qualifications", 2015 Edition, Chapter 4 (Fire and Life Safety Educator I)	July 1, 2026

In the interim, prior to the July 1, 2026, deadline for certification, and at a minimum, all staff resources conducting fire inspections should have the skills and competencies included within the NFPA 1031 – Fire Inspector Level I. It is recommended that staff performing fire inspections involving more complex issues and requiring interpretation of various legislation and OFC and OBC requirements be qualified to NFPA 1031- Fire Inspector Level II. In our experience, successful completion of courses in addition to NFPA 1031 Level I and II requirements including OFC Parts 2 and 6, Part 4, Parts 3 and 5, Courtroom Procedures, and Effective Inspections of Commercial Cooking Equipment are necessary to ensure fire prevention and public education division staff are trained to effectively perform their role and responsibilities. Staff responsible for conducting fire

investigations should have the skills and competencies included in NFPA 1033 – Standard for Professional Qualifications for Fire Investigator.

The ability to approve alternative fire solutions, compliance alternatives, compliance equivalence, FSPs, life safety studies, and fire drill scenarios is exclusively assigned to persons who have been designated as Chief Fire Officials. Chief Fire Official status is conferred upon fire chiefs by virtue of their rank. As per industry standards, any delegation of such authority must be documented in writing. In accordance with recently enacted legislation, all Chief Fire Officials tasked with approving FSPs for structures housing care occupancies, care and treatment occupancies, or retirement homes are now required to complete mandatory training as approved by the Fire Marshal.

7.3 Existing Fire Prevention Division Staff Training and Qualifications

As part of the data collection process for this FMP, documentation provided by the OFD was utilized to determine the level of training of fire prevention and education division resources. Table 9 summarizes the current training certifications of the fire prevention staff who deliver fire prevention and public education programs and activities.

Through the interview process for this FMP, it was noted that due to the retirements and the addition of the new positions within the Fire Prevention Division, there are several newer personnel within this division. Oakville was successful in hiring two of the four new FPOS who had previous experience and came with the required certifications that meet the O. Reg. 343/22, while the second two new FPOs have taken the required courses for NFPA 1031 and are currently waiting for an exam date in early 2024 to obtain their certifications.

Oakville fire has been proactive in ensuring continued professional development is available within the Fire Prevention Division. Staff have taken courses applicable to their profession, such as NFPA 472 (Hazardous material awareness level), commercial cooking inspection, court room procedures, Building Code Identification Number (BCIN) legal and BCIN fire protection. The BCIN courses offer professional designations for building code practitioners who perform inspections of buildings that fall under the Ontario Building Code, of which Oakville FPOs are heavily involved in. Currently all Oakville FPOs

have attained the two BCIN designations. Two FPOs have also obtained NFPA 1041 Fire Service Instructor Level I.

Ongoing professional development is strongly recommended in order to guarantee that all OFD FPOs maintain their leadership positions in this highly technical profession. In addition to allocating additional time for personnel to attend training sessions to obtain additional credentials, the municipality will be obligated to make additional financial investments to cover course fees and staff attendance. By allocating this expenditure, the Town of Oakville will be able to enhance the safety of its residents and tourists by proactively implementing fire safety regulations and enforcement, as well as public education and prevention, which are the first two lines of defence.

All 12 fire prevention staff trained to NFPA 1031, Level I and NFPA 1035, Level I and II. Through the grandfathering process, some individuals were granted equivalency with the standards based on knowledge (i.e., courses) or experience (i.e., five or more years' experience in a related role).

Table 9: Existing Fire Prevention Division Staff Training and Qualifications

Position	NFPA 1031 Level I	NFPA 1031 Level II	NFPA 1033	NFPA 1035 I	NFPA 1035 II
Chief Fire Prevention Officer	Yes[13]	Yes[14]	Yes	Yes	Yes
Assistant Chief Fire Prevention Officer	Yes	Yes	Yes	Yes	Yes
Fire Prevention Officer	Yes[15]	Yes[16]	Yes	Yes	Yes
Fire Prevention Officer	Yes	Yes	Yes	Yes	Yes
Fire Prevention Officer	Yes	Yes	Yes	Yes	Yes
Fire Prevention Officer	Yes	Yes	Yes	Yes	Yes
Fire Prevention Officer	Yes	Yes	Yes	Yes	No
Fire Prevention Officer	Yes	Yes	Yes	Yes	Yes
Fire Prevention Officer	Yes[17]	Yes[18]	Yes[19]	Yes[20]	Yes[21]
Fire Prevention Officer	Yes[22]	Yes[23]	Yes[24]	Yes[25]	Yes[26]
Public Education Officer	Yes[27]	Yes[28]	Yes[29]	Yes	Yes
Public Education Officer	No	No	No	Yes	Yes

Source: Oakville Fire Department

[13] Has completed the curriculum and is awaiting testing dates for certification.
[14] Has completed the curriculum and is awaiting testing dates for certification.
[15] Has completed the curriculum and is awaiting testing dates for certification.
[16] Has completed the curriculum and is awaiting testing dates for certification.
[17] Has completed the curriculum and is awaiting testing dates for certification.
[18] Has completed the curriculum and is awaiting testing dates for certification.
[19] Has completed the curriculum and is awaiting testing dates for certification.
[20] Has completed the curriculum and is awaiting testing dates for certification.
[21] Has completed the curriculum and is awaiting testing dates for certification.
[22] Has completed the curriculum and is awaiting testing dates for certification.
[23] Has completed the curriculum and is awaiting testing dates for certification.
[24] Has completed the curriculum and is awaiting testing dates for certification.
[25] Has completed the curriculum and is awaiting testing dates for certification.
[26] Has completed the curriculum and is awaiting testing dates for certification.
[27] Equivalency obtained through grandfathering process in 2013/14 and 2018.
[28] Equivalency obtained through grandfathering process in 2013/14 and 2018.
[29] Equivalency obtained through grandfathering process in 2013/14 and 2018.

7.4 Fire Prevention Policy

Based on our expertise, a fire prevention policy is a highly beneficial tool that mirrors industry best practices and provides department staff with direction and clarity. The policy specifies the service expectations that have been adopted by the council for the preventive and public education division. Policies are essential, namely in the areas of public education and fire prevention, in order to establish performance objectives and goals, inform trend analysis, and enable continuous monitoring of these public services.

The components of a fire prevention policy are provided in PFSG 04-45-12 Fire Prevention Policy which presents a framework for developing a fire prevention policy. An example of the purpose of a fire prevention policy includes:

- To establish policies and procedures for fire department personnel for fire prevention, public education programs and activities as a primary means of protecting lives and property from fire; and
- To maintain compliance with the minimum fire prevention and public education activities as required by the FPPA, 1997.

A fire prevention policy should also describe the following fire prevention and fire safety education programs and services such as:

- Fire inspection activities;
- Fire code enforcement;
- Fire and life safety education;
- Fire investigation and cause determination;
- Fire loss statistics; and
- Fire department operational guidelines identifying how, when and where activities will be conducted.

7.4.1 OFD Fire Prevention Policy

The Town of Oakville along with the OFD established a corporate policy in December of 2019 which spelled out, in brief terms, the services they will provide to the citizens of Oakville. The policy is referenced as the Fire Protection and Emergency Management Policy MF-FPS-001. At the same time, a Fire Prevention Procedure (MF-FPS-001-001) was also introduced and approved by council which outlined the services provided by

the OFD with respect to fire prevention and public education. This procedure provides a short description of the fire prevention and public education services provided by the OFD, which include the following:

- A simplified Risk assessment completed every five years based on the OFM PFSG 02-02-03.
- Fire inspections based on the FPPA, the Building Code Act and the Town of Oakville applicable bylaws.
- Annual evacuations drills of care occupancies, treatment occupancies or retirement homes.
- An FPO will be assigned on a daily basis to perform plans review, site plan approvals, fire route applications, committee of adjustments, building permit applications, development applications and planning development in order to ensure all matters related to fire safety are addressed and in compliance with applicable legislation.
- The FPO assigned to plans review will provide technical advice to the Chief Building Official regarding fire safety matters.
- Fire investigation to determine origin, cause and circumstances of all fires that meets the fire prevention call-out procedure, or where it is deem necessary by a senior officer.
- Public education with respect to fire safety for the citizens of Oakville with the aim at reducing injuries and deaths due to fire.
- The CFPO or their designate will liaise with Corporate Communications to coordinate public fire and life safety messaging through media releases, media interactions and social media.
- Monthly and yearly division activity reports. In order to verify the objectives and services identified in the fire prevention procedure have been completed, supporting documentation and reports are required to be produced and maintained. Daily work activities will be documented, such as:
  - Public education;
  - Court proceedings;
  - Inspections;
  - Fire investigations; and
  - Plans review.

- A monthly activity report for the division will be submitted to the Deputy Fire Chief Prevention and Public Education within five business days following the end of the month.
- An annual activity report will be forwarded to the Deputy by January 31.
- Divisional meetings to be conducted every four weeks to facilitate impute, prioritization of concerns or issues and provide direction where required.

The Corporate Procedure MF-FPS-001-001 contains two appendices; "A" which identifies the types of buildings requiring fire inspections, and "B" the types of public education programs the OFD is involved in. According to the two appendices of the corporate procedure there is no predetermined frequency for the department to carry out proactive inspections or public education initiatives. The procedure however does reference inspections will be carried out based on requests and complaints, which meets the minimum requirements as set out in the FPPA.

During our research it was determined an older OFD Fire Prevention Policy #4-5, last updated in August of 2013, is still listed as active. With the Corporate policy and fire prevention procedure currently up for review and with the existence of OFD policy 4-5, it is recommended that the OFD undertake a review of the three documents to revise the documents as necessary.

Operational Recommendation #17: That the Oakville Fire Department undertake a review of the Fire Protection and Emergency Management Policy (Corporate Policy MF-FPS 001), Fire Prevention Procedure (Corporate Procedure MF-FPS-001-001), and OFD Fire Prevention Policy (Policy #4-5) as outlined in this FMP.

7.5 Existing Fire Inspection and Enforcement

A fire inspection program is a core element of the first two "lines of defence". Based on our interviews with staff, the current fire inspection program of the OFD consists of annual inspections of vulnerable occupancies, schools, hotels, residential occupancies that fall within the scope of the OFC, Division B, Section 9.5., public hall licenced establishments (Group 2 Occupancies) and lodging homes. In addition to the fire inspections completed, the OFD spends a considerable amount of their time performing OBC inspections.

Since 2013, there have been several stand-alone regulations made under the Fire Protection and Prevention Act which directly relate to fire safety inspections. In addition, the Fire Marshal issued Directive 2014-003, establishing a standard for fire departments to follow when performing fire safety assessments and inspections upon request or complaint. A summary of these regulations and directive follows.

7.5.1 O. Reg. **150/13** Enhancing Fire Safety in Occupancies Housing Vulnerable Ontarians

O. Reg. 150/13 – Enhancing Fire Safety in Occupancies Housing Vulnerable Ontarians was filed on May 9, 2013. This regulation introduced amendments to the OFC that came into force on January 1, 2014. The OFM led the development of this new regulation in consultation with a Technical Advisory Committee of industry experts. This regulation is intended to enhance fire safety in occupancies that house vulnerable occupants. The legislation applies to care, care and treatment and retirement homes that are regulated under the Retirement Homes Act.

7.5.2 O. Reg. **364/13** – Mandatory Inspection – Fire Drill in Vulnerable Occupancy

O. Reg. 364/13 – Mandatory Inspection – Fire Drill In Vulnerable Occupancy (VO) also requires that a fire inspector observe a fire drill scenario representing the facility's lowest staffing complement (as approved by the Chief Fire Official), conduct a fire safety inspection (utilizing the Annual Inspection Checklist which forms part of OFM Directive 2014-002: Vulnerable Occupancies – Fire Drill Scenarios, Fire Drill Observations, Fire Safety Inspections, as a minimum level of inspection), and then update the OFM's VO Registry, as appropriate.

7.5.3 O. Reg. **365/13** – Mandatory Assessment of Complaints and Requests for Approval

O. Reg. 365/13 – Mandatory Assessment of Complaints and Requests for Approval requires the Chief Fire Official to assess a complaint about the fire safety of a building to determine if conducting a fire safety inspection of all or part in a building is warranted.

The regulation further requires Chief Fire Officials to determine whether a fire safety inspection is required when a request is made for approval under the fire code. As with complaints, the Chief Fire Official has been empowered to assess requests for approval to determine if a fire safety inspection is required.

Through consultation with the OFM it is our understanding that the intent of this regulation is not for the Chief Fire Officials to cause a fire safety inspection to be conducted as the result of every complaint or request for approval received, but rather to assess each complaint and request to determine if an inspection is necessary.

7.5.4 Fire Marshal's Directive: **2014-003**

Fire Marshal's Directive: 2014-003 provides direction to all Assistants to the Fire Marshal to follow with respect to performing request or complaint inspections and was intended to provide a uniform standard for all fire departments to follow when conducting fire safety inspections and assessments. The directive references PFSG 40D-03 Inspections upon Request or Complaint and OFM TG-01-2012: Fire Safety Inspections and Enforcement.

These regulations and directives have added to the workload of municipal fire department prevention divisions. As noted in the CRA, the Town of Oakville has 59 registered Vulnerable Occupancies, each requiring the OFD to perform fire safety inspections and witness a fire drill on an annual basis. Additional training is required for those individuals responsible for approving the fire drill scenarios and FSPs for these facilities as outlined in Article 1.2.4.1 of Division C of the Fire Code of which Oakville fire prevention staff have completed.

7.5.5 Request or Complaint Inspections

In compliance with O. Reg. 365/13: Mandatory Assessment of Complaints and Requests for Approval, upon receipt of a complaint or request for assistance to comply with the Fire Code, the OFD will perform a fire safety inspection. This regulation requires that fire safety assessments, and inspections, if necessary, be undertaken 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.

Our review indicates the OFD does not have an SOP that outlines a method for documenting and prioritizing fire safety complaints, what would constitute a requirement for an inspection, or the procedures to follow when conducting fire safety inspections. Currently the fire prevention staff prioritize complaints based on when the complaint or request is received and respond to the complaint within 24 hours of

receiving the complaint. To standardize and document processes for consistency with O. Reg. 365/13, it is recommended that the OFD create a standard operating procedure outlining the process and timelines associated with the receipt of fire safety complaints and requests.

Operational Recommendation #18: That the OFD establish a standard operating procedure to formalize the process of receiving and managing fire safety requests and complaints.

Our research also identified through the interview process the OFD currently struggles to be able to retrieve statistical data regarding the Fire Prevention Division's activities. The ability to collect, enter and retrieve statistical data on the Fire Prevention Division's activities is significant in determining effectiveness and efficiency of the division's programs and workload associated with the delivery of said programs. It is recommended that the OFD establish a SOP on the collection of information relevant to all the division's activities and establish key performance indicators for said activities.

It was further identified during the interview process the current records management software (RMS) is out of date and not capable of producing data that can be relied upon. It is recommended as part of the initiative to acquire a new records management software, as previous recommendation for the department (Section 5.10 and Operational Recommendation #12), that the OFD ensure the software can capture and producing accurate data on the Fire Prevention Division's activities.

Operational Recommendation #19: That the OFD acquire a Records Management System that is capable of storing and exporting reliable and valuable data on the Fire Prevention Division's activities as identified in this FMP.

7.5.6 Rates and Fees

The Rates and Fees schedule in Oakville is passed as part of the annual corporate budget approval process. This authorizes a fee or a charge for the various predetermined services the OFD provides to the public. Oakville is proactive in this area and currently has an extensive list containing forty-five different inspections or services for fire prevention related tasks which a fee is associated. As part of an annual review process to update the fees and charges schedule, it would be prudent for the town to review the actual time spent performing these services and the associated fees for the service; and

determine if the current fee for service captures the actual cost of a fire prevention officer's rate, and the time commitment required to perform the task(s). This review would identify the true cost to perform the services and justify the current and future increases to the fees for service schedule.

As the Town continues to grow, the OFD will continue to see an increasing number of complaints and requests on an annual basis. Depending on the nature and validity of the complaint, the workload associated with this requirement can be significant.

7.5.7 Routine Fire Inspections

Routine fire inspections are proactive inspections carried out by the department in response to known fire hazards, as opposed to being initiated by requests or complaints. Historically, routine fire inspections have been guided by earlier risk assessments and risk profiles related to fire risks. Within this FMP the focus of routine fire inspections will be informed by the identified "key findings" and "identified risk" defined by the Community Risk Assessment.

In the past, OFD has maintained a list of occupancy which it routinely inspects where a mandatory annual inspection is required by O. Reg. 150/13 – Enhancing Fire Safety in Occupancies Housing Vulnerable Ontarians. Having a list of mandatory inspections in addition to completing request or complaint fire inspections is consistent with the Town's legislative requirements. Table 10 illustrates a summary of the OFD current fire inspection program.

This summary indicates that the current fire inspection program focuses primarily on responding to complaints or requests as required by legislation.

Table 10: Existing Routine Fire Inspection Cycle

Group	Occupancy Type	Current Inspection Frequency
A	Assembly	• Business licensing – all new businesses, ownership changes. • All others – complaint or request.
B	Care/Detention	• Vulnerable Occupancies – annually. • All others – complaint or request.
C	Residential: Low/Rise Multi-Family	Complaint or Request
	Residential: High/Rise Multi-Family	Complaint or Request
	Residential: Two Unit Residential	Complaint or Request
	Residential: Seniors Residential	Complaint or Request
	Residential: Boarding, Lodging, Rooming	Complaint or Request
	Residential: Group Homes	Complaint or Request
	Residential: Hotels/Motels	Complaint or Request
	Residential: College/University Housing	Complaint or Request
	Residential: Student Rental Housing	Complaint or Request
D	Business: High/Rise Office	Complaint or Request
	Business: Low/Rise Office	Complaint or Request
	Business: Business Licence	Complaint or Request
E	Mercantile: Shopping Centres	Complaint or Request
	Mercantile: Shops/Stores	Complaint or Request
F	Industrial: F1 – High Hazard	Complaint or Request
	Industrial: F2 – Medium Hazard	Complaint or Request
	Industrial: F3 – Low Hazard	Complaint or Request

Source: Oakville Fire Department

7.5.8 Fire Safety Audits

To maximize the utilization of available staff resources for the implementation of public education and fire prevention programs, fire departments across the province are shifting toward a greater reliance on the use of on-duty firefighters.

Some municipalities in the province are implementing a recruit training program as a means of developing a staff resource strategy of this nature. This program equips newly recruited firefighters with the necessary skills and competencies to deliver public

education and fire prevention services, in addition to the mandatory firefighter training. This comprises NFPA 1035–Fire and Life Safety Educator I and NFPA 1031–Fire Inspector I candidate training. In addition to the training of recruit firefighters, or as an alternative, incorporate the two training programs into an existing or new officer development training program. The benefit to adding this additional training to the officer development program would be, the officer rank is recognized as a leader and would hold a position of authority while performing the inspections.

Currently Oakville does not have an in-service fire safety audit program involving on-duty fire crews. The OFD was involved in an in-service program throughout the 1980s and 1990s where schools, high rise buildings and light industrial commercial establishments were visited by fire crews to perform a housekeeping style audit; a pre-planning exercise of the building. A return to the utilization of on duty fire crews to perform in-service inspections and pre-planning would further optimize the efficiency and effectiveness of current staff resourcing to proactively assist in delivering the first two lines of defence programing. This will require an investment of time for the identified staff to attend training sessions to attain further qualifications, and further financial investment on behalf of the municipality for staff attendance and course fees. In addition to the suppression time commitment, the program may create additional time commitments for the fire prevention staff to follow up on issues found while crews performed their safety audits.

Operational Recommendation #20: That the OFD develop a NFPA 1035–Fire and Life Safety Educator I and NFPA 1031–Fire Inspector I training program as part of the recruit firefighter training program and/or part of the officer development training program to enable the Suppression Division to enhance the delivery of the first two lines of defence as outlined in this FMP.

7.5.9 Fire Safety Enforcement

The OFM TG 01-2012 Fire Safety Inspections and Enforcement outlines recommended fire safety inspection and enforcement practices for fire departments in Ontario and provides municipalities with strategies, particularly related to enforcement of the Ontario Fire Code in situations where achieving compliance has or may be more difficult to achieve. OFM TG 01-2012 Fire Safety Inspections and Enforcement is intended to assist municipalities in efficiently and effectively meeting fire safety and enforcement

responsibilities. Historically, enforcement was not commonly used by municipalities working with property owners to achieve compliance with the Ontario Fire Code. This trend is changing across the province with the support of the OFM, in part through the introduction of this OFM Technical Guideline.

Dillon's review of this guideline indicates that it supports the direction of the first two lines of defence to optimize the level of fire protection services within a community. In our experience, there is substantial value to utilizing a variety of techniques to assist a property owner achieve compliance with the OFC.

Engaging and educating the public about its responsibility to comply with the OFC is often enough to bring about compliance, however, there are instances where enforcement may be necessary.

Through the interview process for this FMP we learned the OFD utilizes Fire Safety Orders and Summons to Court under Part III of the Provincial Offences Act for matters of non-compliance with the Ontario Fire Code, in keeping with OFM TG 01-2012. Town legal staff provide support to process charges against property owners found in contravention of the OFC as the result of a fire investigation. It should be noted that enforcement through the court system can be time consuming for a fire prevention personnel. In our view, there would be value in tracking benchmarks associated with enforcement activity within the town. Examples of benchmarks include:

- Fire department personnel time spent enforcing the Ontario Fire Code, specifically time spent preparing for court, attending court, document preparation, issuing certificates of offence, preparing fire safety inspection orders;
- Legal and town staff time spent enforcing the Ontario Fire Code;
- Number of convictions vs. charges brought before the court;
- Amount of penalty awarded on conviction; and
- Jail time imposed.

Some jurisdictions choose to publish details relating to enforcement by the fire service, when appropriate and in accordance with the communications policy, in an effort to educate the public with the aim of changing human behaviour to reduce fire risk.

Another enforcement option made available to fire department under the Provincial Offences Act is the use of Certificate of Offence, commonly known as a ticket or a Part I.

O. Reg. 52/15 – Proceedings commenced by a Certificate of Offence was filed on March 11, 2015, expanding the number of ticketable offences under the Ontario Fire Code. In our experience, the use of tickets by fire departments has received mixed reviews across the province. The Town of Oakville's legal department along with the Fire department have decided not to utilize this enforcement method at this time and continue to utilize Fire Safety Orders and Summons to Court under Part III of the Provincial Offences Act for matters of non-compliance with the OFC.

7.5.10 Fire Investigations and Cause Determination

Investigating the origin and cause of a fire is the legislated responsibility of a municipal fire service. The required skills and knowledge to competently conduct fire scene investigations are laid out in NFPA 1033 – Standard for Professional Qualifications for Fire Investigators. In instances where fires meet specific requirements, the local fire department may request the OFM to conduct the investigations. The criteria and procedure for this request are outlined in the May 2019 revision of Fire Marshal's Directive 2019-001.

The documentation review completed for this FMP indicates that the OFD has several SOPs describing the department's activities with regards to fire investigations, these include:

- SOP #4-1 – Fire Prevention Call Out Procedure (Fire Investigations);
- SOP # 4-2 – Halton Health Call Out Procedure (Fire Investigation);
- SOP #4-15 – Conducting Fire and Explosion Investigations;
- SOP # 4-16 – Respiratory Protocols (Fire Investigators); and
- SOP #4-17 – Safety at Fire and emergency scenes (Fire Investigators).

A protocol for requesting fire prevention staff to assist with fire investigations is outlined in SOP #4-1. According to our research, this policy satisfies the requirements for OFM notification as outlined in Fire Marshal's Directive 2019-001. The information provided by OFD regarding the qualifications and training of the FPOS in the Fire Prevention Division indicates all FPOs have completed the NFPA 1033 – Standard for Professional Qualifications for Fire Investigators.

The findings of fire investigations can help a fire department develop public education and fire prevention initiatives tailored to the fire incidents experienced in Oakville.

7.5.11 Fire Safety Plans

FSPs are required for select occupancy types identified within the OFC. These occupancies include Group A – Assembly occupancies, and Group B – Care or Detention occupancies. All remaining major occupancy groups (e.g., Group C – Residential, Group F – Industrial, etc.) also require FSPs depending on their occupancy load or other building-related features such as storeys below grade.

Content requirements for a FSP are also specified by the OFC. Emergency measures in the event of a fire, including activating the fire alarm, informing the fire service, and providing instructions and facilitating the evacuation of inhabitants, are encompassed within these criteria. Designated supervisory personnel and specifics on fire drills, fire hazard management, and building facility maintenance must also be outlined in FSPs. An example of this would be the evacuation process for care providers in a long-term care facility, as outlined in the FSPs.

Recent legislated changes require all Chief Fire Officials approving FSPs for buildings containing care occupancies, care and treatment occupancies or retirement homes, to successfully complete mandatory training as approved by the Fire Marshal[30].

The OFD outlines the process to review and approve FSPs in SOP #4-8 and #4-10 Fire Safety Plan review and Approval. SOP# 4-8 was authored in 2016 and #4-10 was authored in 2018. Both SOPs set out the process whereby all reviews and approvals of FSPs for new and existing occupancies within the Town of Oakville are conducted. This includes procedures for the inspection, submission, review, rejection, approval, and enforcement of FSPs. A review of the two SOPs should be undertaken to ensure one SOP is in effect and the other is rescinded.

7.5.12 Building Pre-Incident Planning (Pre-Plans)

Equipping fire crews with a proactive comprehension of critical building characteristics, potential hazards, and other indispensable building information of an existing occupancy is the objective of pre-incident planning. Pre-fire planning is often executed by on-duty fire suppression crews utilizing data gained from several sources, such as the

[30] Source: “Mandatory Training”, Ministry of the Solicitor General website, last updated: November 18, 2016.

municipality's existing records, information provided by the property owner or tenant, and information gathered during a site visit. Prior to the arrival of fire suppression crews at an emergency incident, pre-fire planning in a structure is crucial for providing them with site-specific knowledge and hazards. The first-time fire crews attend a building should not be during an emergency call situation.

A Pre-fire planning program by on-duty fire crews in the OFD currently does not exist today. As previously mentioned in this FMP, the on-duty crews did engage in pre-plans prior to the 2000s however the program ceased to continue in the early 2000. Currently the only pre-planning of buildings that would occur is as a result of an FPO completing an inspection of a facility and gives the on-duty crews an invite to attend. Under this current practice there is no guarantee that all the crews from the specific station would attend and a pre-plan building document identifying the building services may not be completed and circulated to potentially responding fire crews.

The OFD has developed two operating procedures for responding to incidents at specific sites or buildings due to their unique layout, location or operations that take place within them. There are operating guidelines for the following facilities:

- SOP #10-2 – Oakville Trafalgar Memorial Hospital; and
- SOP #10-49 – Response to Suncor Tank Farm.

Priority should be given to the pre-planning of occupancies identified by the Community Risk Assessment's “key findings" and "Identified risk." These provide valuable insight into the fire related risks present in the community, particularly with the classifications of building occupancies that should be given priority in pre-incident planning. Pre-planning and the in-service fire inspection program could be integrated to increase the efficiency of the in-service crews' time.

7.5.13 Plans Review

An important element of fire prevention is the approval of plans for new construction or site modifications as they pertain to fire protection. The extent to which a Fire Prevention Division examines plans differs among jurisdictions. Building plans can be reviewed for fire alarm and detection systems, sprinkler systems and suppression systems. In addition, subdivision approval and site plan approval for matters that impact fire services, including water supply and fire department accessibility. Review of Building

Plans pertains to the assessment of design plans prior to the commencement of construction and can be related to actual construction or to a new manufacturing process. Architectural, structural, mechanical, electrical, and/or fire protection drawings are assessed throughout the plans review process to verify adherence to a range of regulations and standards, such as the OBC.

Determining the level of plans review performed by Fire Prevention Divisions is a decision that requires discussion and collaboration between the fire, building and legal departments.

The purpose of the plans review procedure in a municipality is to determine that the required built-in fire prevention systems and proper construction are there, both of which are critical for the safety of building occupants and first responders. The current building plans review process of the OFD involves one FPO permanently assigned to the review of all life safety systems, emergency exits, signage, lighting and more. All fire prevention staff perform Building Code inspections as well as Fire Code inspections and are documented as building inspectors for the items they inspect, in keeping with best practices and legislative requirements. It is recommended as a best practice that all FPOs be designated/included as building inspectors in the town's current by-law.

The current plans review model historically has contributed to a positive working relationship between the OFD and building department and has provided fire prevention personnel with more intimate knowledge of new and existing buildings which can be shared with suppression staff. The additional value to the public and attention to detail with respect to the building code and the fire code provides a seamless approach from the building permit and construction to occupancy status.

Fire department personnel who are appointed as building inspectors for the purpose of conducting OBC plan reviews or inspections involving components of fire suppression and detection systems, are required to complete OBC General Legal and Fire Protection examinations and obtain a BCIN. Although not mandatory for all fire safety inspections, this training does provide the same immunity from liability that building inspectors enjoy while performing OBC inspections. It was confirmed through the interview process that there is one fire prevention officer dedicated to the building plans review process has completed OBC General Legal and Fire Protection courses. In additional to the FPO performing plans exam, all FPOs also have attained the BCIN credentials. This is a best

practice and provides depth of coverage for plans examination when the plans examiner FPO is away on vacation or other approved leaves.

7.5.14 Registered Secondary Unit Residences

In addition to granny flats, in-law suites, accessory apartments, and basement apartments, alternative designations for two-unit houses include those that designate a second contained unit enclosed within a single-family or semi-detached home. While two-unit residences are not a new concept, the number of these dwelling units has increased in several jurisdictions in recent years. As the population continues to grow, it is expected this trend will continue. The Town of Oakville has traditionally taken a firm position to limit the creation of secondary units within Oakville and a few are in and around Sheridan College Institute of Technology and Advance Learning.

The Town has a by-law which requires all two-unit houses within Oakville to be registered with the Town, a process which includes a fire safety inspection if the registration falls under Section 9.8 of the OFC (second unit in existence on or before July 14, 1994). Further, the Business Licensing By-law addresses the requirements for residential rentals within the vicinity of Sheridan College.

Despite the implementation of registration and inspection requirements and by-laws, it may be impossible for inspection staff to verify that all rental properties are consistently in compliance with the OFC or that all properties utilized as secondary units or residential rentals are duly registered or licenced.

7.5.15 False Alarms

For the period from January 1, 2016, to December 31, 2020, Carbon Monoxide False Alarms (5.6%) and False Fire Calls (14.8%) accounted for 20.4% of the total emergency call volume of the OFD. In an effort to decrease the occurrence of false fire calls, the OFD has adopted a cost recovery technique in an effort to reduce the number of nuisance alarms it gets. The Town is authorized to impose a fee for service for false alarms under By-Law #2015-113. The reporting, documentation, and billing of false alarm responses are governed by OFD Operating Policy #12–4 Fees for Service – False Alarms.

As per the Council approved Rates and Fees schedule, the initial two false alarm incidents in in a floating 12-month period are not subject to charges by the OFD.

However, the policy specifies the procedures that the Fire Prevention Division is to follow when informing the landlord or property owner about the repeated false alarms. The building owner or landlord will receive a letter that identifies the recurring false alarms and urges them to take the required measures to prevent future incidents. Fire prevention may also conduct any requisite inspections of the structure as part of the follow-up program after the second incident. If a third or any subsequent false alarm occurs in the same fiscal year, the owner/landlord will be invoiced under the fees for service by-law for each additional occurrence.

7.6 Existing Public Education Program Review

The primary facilitators of the public education programs conducted by the OFD are two PEOs who work out of the Fire Prevention Division offices. The two PEO have obtained their NFPA 1035 – Standard for Professional Qualifications for Fire and Life Safety Education Level I and II. The two PEOs are tasked with implementing the public education program for the department. In addition to the two PEOs qualifications, the CFPO, ACFPO and the eight FPOs also have obtain the NFPA 1035 qualifications as assist the two PEOs with the larger public events such as mall displays and Sparky's Dog Days of Summer program.

The distribution of fire and life safety information and emergency management program materials to the public, is facilitated through various channels, including community events, social media platforms, the fire department website, and in-person programs (such as Fire Prevention Week, Residential After the Alarm Program, Community Safety Day, and Home Awareness Program).

The OFD website provides valuable information on various life safety related topics including home fire safety (e.g., smoke alarms, carbon monoxide safety, fire escape planning, fire safety in apartment buildings, etc.), cooking with caution, electrical hazards, fire extinguishers, marina and boats safety, outdoor fire and BBQs, student housing, fireworks, Halloween safety and winter holiday safety which covers use of, candles, Christmas trees and holiday decorations.

The public education and prevention programs have also evolved to include coordination throughout the Town's Community Services Commission. Recreation and Culture, along with the Oakville Public Libraries, have developing

partnerships/relationships with OFD to improve the services provided to Oakville residents. These initiatives align with strategic corporate direction.

According to our research, the existing public educational programming caters to demographic groups in accordance with their distinct circumstance and requirements. Programs and resources are devoted to educating students, seniors, children, and vulnerable occupants. Examples of the educational programs the department provides are presented in Table 11.

Table 11: Existing Public Education Program Summary

Program Name	Audience	Description
After the Fire Awareness Program	Neighboring Residents from a Fire	Fire incidents provide teachable moments for those closely affected. Fire crews go door to door and distribute fire safety information.
TAPP-C (The Arson Prevention Program – Children)	Children and Youth	The TAPP-C Arson Prevention Program is a juvenile fire setter intervention program for children and youth, ages 2 through 17. In this program, fire service and mental health professionals work with the child and family to change dangerous fire setting behaviours.
Home Awareness Program	Changes year to year	Program involves door to door campaign to deliver home fire safety information to targeted audience.
Learn Not to Burn	Preschool, Kindergarten and Grade 1	Program teaches fire safety and that firefighters are community helpers. Crews visit the classroom with a PEO.

Program Name	Audience	Description
Elementary School Programs	Grades 4 and 9	This program focuses on children at the Grade 3 level in providing introduction into fire safety messaging including the importance of smoke alarms, home escape planning, how to call 911 and to crawl low under smoke. At the Grade 3 level Students learn about the fire triangle and the science behind fire. Also reinforces the importance of smoke alarms, carbon monoxide alarms and escape planning.
Secondary School Programs	Grade 9	The focus is on cooking fire safety and safe disposal of smoking articles.
Remembering When Program	Seniors	Seniors fire safety talks, home smoke and carbon monoxide replacement assistance. Referrals from Links2Care for alarms that are not working. The OFD will assist with replacement.
Gate Keepers Hoarding Coalition	Homeowners with hazardous fuel loads form accumulations of materials	Work together with the coalition partners to help individuals and families. The Fire prevention division work with the gate keeper's coalition.
Children's Aid Society Coalition	Families receiving CAS Support	Home fire safety assessment is performed based on referrals from CAS for alarms not working. The OFD will assist with the replacement.
Dog days of Summer	Tots and their caregivers	Raise awareness with families about fire and burn prevention. The fire crews and FPOs attend splash pads while information is provided to the caregivers.
Fire Prevention Week Kick off	School children and their families	Open house, fun activities, demonstrations, Media and messaging.

Program Name	Audience	Description
Fire Prevention Week	Oakville residence	Raise awareness about home fire safety. Set up booths in Oakville Place Mall.
Holiday Fire Safety	Oakville residents	Attend various community centres and engage the public at the time of free public skate.
Carbon Monoxide Awareness Week	Oakville families and their children	Raise carbon monoxide awareness and Halloween safety. The program is delivered at the BIA's Halloween kids events.
Emergency Preparedness Week	Oakville Residents	Information about being prepared should an emergency occur. Attendance at Oakville place mall with a display and talk to the public.
Push 2 Buttons	School age Children	In school messaging – Test your smoke alarm and carbon monoxide detectors with family.
Midnight Madness	Oakville Residents	Raise awareness about home fire safety. Participate with display and talks to the public.
Children's Festival	Oakville Families with their children	Raise awareness of fire and burn prevention. Participate with display and talks with the public.
Oakville Ribfest	Oakville Residents	BBQ fire safety is discussed. Display and talks with the public.
Multiculturalism Day	Oakville Residents	Home fire safety information is presented through display and talks.
ESINC Day	New Canadians	Home fire safety is presented through display, information in five different languages.
Spring and Fall Home Show	Homeowners and Renovators	Consideration for interconnected smoke alarms and residential sprinklers is displayed and discussed.

Program Name	Audience	Description
Halton ECO Festival	Oakville Residents	Home fire safety is presented through display and talks.
Energy Fair	Oakville Residents	Home fire safety is presented through displays and talks.

In summary, to enlighten community about fire and life safety, the OFD has established public education initiatives that targets a broad spectrum of population of Oakville and provides several possibilities for participation. From our perspective, the public education initiatives surpass the legislative mandates of the municipality and best practices. However, despite the comprehensive program offerings, the OFD is unable to quantify the workload and successes of the programs due to the lack of data available associated with the programs.

7.6.1 Home Awareness Program

Under the authority of the FPPA, the Ontario Fire Code requires a working smoke alarm to be installed on each level of a dwelling unit, as well as outside of all sleeping areas. Responsibility for installation and maintenance of the smoke alarm lies with the owner/landlord. To assist the fire department in fulfilling its responsibility for the provision of a smoke alarm program, PFSG 04-40B-03 – Smoke Alarm Program outlines the objectives of an effective one. These objectives include all or a combination of the following:

- Providing smoke alarm and home fire escape planning information;
- Promoting regular testing and maintenance of smoke alarms;
- Providing or replacing smoke alarms and/or batteries;
- Encouraging residents to regularly maintain their smoke alarms;
- Educating residents about the legal requirements for smoke alarms;
- Enforcement of all legislation relating to smoke alarms;
- Effectively tracking and evaluating your smoke alarm program; and
- Modifying the program where necessary to ensure success.

O. Reg. 194/14 – Carbon Monoxide Alarms made under the FPPA came into force on October 15, 2014, introducing new requirements for the installation, testing and maintenance of carbon monoxide Alarms. As a result, fire services within the province

have also been tasked with monitoring compliance with this new regulation. Current industry best practices indicate that fire services are revising their previous home smoke alarm programs to include assessing compliance with this new regulation.

Through the interview process it was determined the OFD Home Awareness Program consists of fire suppression crews conducting door-to-door visits of homes in a specific area that is based on predetermined target audience. Annually, fire management in consultation with the CFPO will determine a targeted group or area for the fire crews to conduct the program for the year. The program consists of the crews providing fire safety educational materials to the homeowner from the doorstep and do not make entry into the residence. Currently there is no SOP developed to outline the Home Awareness Program, what crews are to do if a smoke alarm deficiency is identified during the program or if the crews observe a missing or deficient smoke/carbon monoxide alarm while on scene of an emergency call. It is recommended that the OFD establish an SOP for the Home Awareness program and for what procedure is to take place in the event they become aware of a missing or defective smoke alarm in the residence.

Operational Recommendation #21: That the OFD establish a standard operating procedure to identify the goals, objectives, and procedures for the Home Awareness Program.

Operational Recommendation #22: That the OFD establish a standard operating procedure to identify the procedure to be followed by suppression crews if a missing or defective smoke/carbon monoxide alarm is identified by the OFD.

The analysis of smoke alarm status following a fire included within the CRA identified two “key findings” related to smoke alarms that include:

- Over the five-year period from January 1, 2016, to December 31, 2020, of the fire loss incidents in Group C – Residential occupancies, 14.0% of incidents did not have a smoke alarm present (compared to 17.4% in the Province); and
- Over the five-year period from January 1, 2016, to December 31, 2020, of the fire loss incidents in Group C – Residential occupancies, 47.1% of incidents had a smoke alarm present and operating compared to 44.6% in the Province.

These "key findings" highlight the importance of a proactive and aggressive smoke alarm and carbon monoxide alarm program in the Town of Oakville. Table 12 illustrates the number of occupancies visited in 2018 through 2023. It must be noted the Home Awareness Program was not performed in 2020 and 2021 due to the COVID-19 pandemic. This analysis indicates that in the past four of six years the on-duty fire suppression crews visited a total of 8,874 residences which represents approximately 15.5% of the total residential occupancies (57,119)[31] in Oakville.

Table 12: Home Awareness Program Statistics

Target Group	2018	2019	2022	2023
Affordable Housing	739	No Data	No Data	No Data
New Canadians	No Data	780	No Data	No Data
High Carbon Monoxide Incidents in Oakville	No Data	No Data	3,600	No Data
Student Housing	No Data	No Data	No Data	3,755

Source: OFD (no Home Awareness in 2020-2022 due to COVID restrictions).

As mentioned previously, over a five-year period from January 1, 2016, to December 31, 2022, it was determined that no smoke alarm was present for 14.0% of the fire occurrences in the Town of Oakville. It was further noted that over the same period an additional 15.7% of the incidents had a smoke alarm present but it did not operate. These two statistics combined to represent 29.7% of the fire incidents in Oakville did not have a functioning smoke alarm in their residence. This statistic identifies the importance and the need of a Home Awareness Program that aggressively delivers a program based on the objectives laid out in PFSG 04-40B-03: Smoke Alarm Program.

7.6.2 Public Fire Safety Community Outreach

The Fire Prevention and Public Education Division of OFD continue to establish and develop partnerships with local community groups and agencies. The department aims to support and align with the diversity of the local community through initiatives such as:

[31] Town of Oakville/Municipal Property Assessment Corporation (MPAC).

- Partnership with Halton Multicultural Council Connections (HMCC) along with visits to local Hindu Temple and Sikh Temple to provide cultural information and training to new recruits;
- Provide multiple public education and outreach sessions to numerous at-risk local groups;
- Partnered with Meals on Wheels deliveries to provide smoke/CO alarm deliveries and discuss fire safety with seniors, many who are isolated and confined to their homes;
- Partnership with Oakville's Recreation and Culture Department to attend Seniors programs offered through the Town in Seniors Month;
- Partnership with HMCC to offer fire safety information to newcomers and renters based on identified risks;
- Attend Town Halls hosted by Councillors to share fire safety information;
- Attend events of cultural significance and continued outreach efforts to reach multiple stakeholder groups;
- Conduct youth program outreach beyond the traditional hockey game attendance to reach various audiences;
- Provide modified programming to facilitate outreach (e.g., rather than only offer Family Day programming at multiple stations and with the heritage room at Station 3, OFD offered the program at different locations to reach different socioeconomic groups, such as those who may not have access to transit, parking, etc.);
- Support Special Olympics programs in Oakville; and
- Provide Public Education materials in nine different languages.

Several of the above-listed partnerships and initiatives are reflective of the Inclusion, Diversity, Equity and Accessibility (IDEA) key corporate objective.

7.6.3 Existing Public Education Program Frequency

Table 13 illustrates a summary of the current performance benchmarks for delivering the department's current formalized public education programs.

Table 13: Existing Public Education Program Summary

Program	Existing Performance Benchmark
After the Fire Awareness Program	Based on SOP# 4-9 Criteria
Home Awareness Program	Annually/on Request
Learn Not to Burn Program	Annually
Primary School Program (Grade 4)	Annually
Secondary School Programs (Grade 9)	Annually
Tapp-C Prevention Program	On Request
Remembering When Coalition	On Request
Gate Keepers Hoarding Coalition	On Request
Children's Aid Society Coalition	On Request
Distribution of Public Education Materials at numerous Public Education campaign events	Annually/On Request

Source: OFD

7.7 Historical Fire Inspection, Enforcement and Public Education Workload

In its 2019 edition, the NFPA 1730 Standard on Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations, outlines a thorough procedure for evaluating the staff resource requirements and workload associated with the implementation of fire education and inspection programs.

Currently, the OFD is not able to retrieve credible and or reliable data from their RMS that would monitor the tasks and workload of personnel assigned to this division. Consequently, determining whether the division possesses adequate personnel and resources to effectively and efficiently deliver their current level of inspection and enforcement of the Fire Chief along with their current level of OBC inspections is a challenge for the department.

7.8 Fire Prevention Division Workspace

The Fire Prevention Division staff currently work out of a portable structure located at the rear of Station 5. The portable was originally constructed in 2006 as a temporary measure to relocate the division out of the basement of old Station 3. Since the division's move to the portable, the Fire Prevention Division has doubled in staff numbers and has created an overcrowding situation. In addition to the staff overcrowding, there is also no storage space for the division's public education resources.

Through our interviews with staff, it is our understanding the Town of Oakville is preparing to construct a new fire station (permanent #9) located on Loyalist Trail and Sixth line. In our opinion due to the overcrowding and lack of proper storage for the division, it is recommended that during the design phase of this fire station, space for the current and future needs of the Fire Prevention Division be included at this location.

In the design of the fire prevention area, consideration should include proper workspace area for each FPO and the Administrative Clerk, an office for the CFPO and ACFPO. In addition to the workspace, a meeting room of a size that would comfortably accommodate a division meeting including the potential for guests. The prevention division area will also require kitchen/eating area that would accommodate all staff, and a washroom facility which will include showers, and locker space for the staff's department issued equipment and personal affects. Due to the nature and timing of fire investigations, staff can be called out to perform an investigation at any time of the day or night. To ensure staff are not driving home fatigued in the middle of the night, a space should be allocated for the FPO to recline prior to attempting to drive home fatigued. The Fire investigation vehicle contains sensitive equipment that should be kept

out of the extreme temperatures. Currently the vehicle is kept outside, and this exposes the vehicle to the temperature extremes which create the necessity for the FPO to load the sensitive equipment and resources into the vehicle prior to heading to a fire investigation. During the winter months there is an additional delay while the FPO must clear the snow from the vehicle prior to departing for the fire scene. Both the loading of sensitive resources and the clearing of snow adds to the delay of an FPO to arrive on scene and start their process of a fire investigation. Therefore, it is recommended that space be included in the design of the station apparatus bay to include indoor parking space for the fire investigation vehicle.

Recommendation #5: That the Town of Oakville incorporate the Fire Prevention Division space requirements in the future design of Fire Station 9 as outlined in this FMP.

7.9 Proposed Enhanced Fire Inspection/Public Education

The research and recommendations outlined in this FMP underscore the importance of the initial two lines of defence, namely the enforcement and optimization of fire safety standards and public education and prevention. This FMP places significant emphasis on:

- The OFD prioritizing the optimization of the first two lines of defence, including public education and fire prevention;
- The utilization of fire safety standards and fire code enforcement as the foundation of providing a comprehensive fire protection program within the Town of Oakville; and
- Specifically prioritizing the delivery of fire and life safety programs in Group C – Residential Occupancies that include an enhanced Home Smoke Alarm/Carbon Monoxide Alarm Program.

The analysis within this section has been directly informed by the “identified risks” and “key findings” presented within the companion Community Risk Assessment.

7.10 Proposed Fire Inspection/Enforcement Program

The proposed fire inspection/enforcement program has been directly informed by the findings of the companion Community Risk Assessment and specifically the building

stock profile "identified risks" that have been designated as "high risk". These include the following:

- Group C – Residential Occupancies represent 91.77% of the Town's existing building stock, and over the five-year period from January 1, 2016, to December 31, 2020, were associated with 77.1% of the structure fires within the Town.
- The 2021 Census data indicates that 27.03% of residential dwellings were built prior to the introduction of the 1981 Ontario Fire Code compared to approximately 49% of residential building stock in the remainder of the province.
- The Town currently has 135 buildings defined by the OBC as high-rise buildings with a floor level of 18 metres (59 feet) above grade, or six storeys. These buildings are distributed within the urban area with several located in the downtown area.
- The Town has 217 buildings with a total building area (footprint) that exceed 50,000 square feet (4,655 square metres). These buildings are predominantly located in the business, industrial and employment corridor land use designations along the QEW, Highway 403, Bristol Circle, Cornwall Road and Speers Road land use areas.
- The Town currently has 59 registered vulnerable occupancies.
- Seniors (those 65 years and over) are considered to represent one of the highest fire risk groups across the Province based on residential fire death rate. According to the 2021 Census, seniors represent 15.7% of the Town's total population.
- For the period from January 1, 2016, to December 31, 2021, there is a higher concentration of medical/resuscitator incidents in the areas southeast of Fire Station 1 and an area representing the downtown core of the Town covered by Station 3.

Developing a proactive fire inspection and enforcement program has also been informed by the "key findings" contained within the CRA that indicate the following:

- The Town includes areas of building stock that have higher density and, as such, greater potential for exposure in the event of a fire.
- OFD identified 35 properties within Oakville as having an occupancy that has been identified as high hazard occupancy.
- In addition to 59 registered vulnerable occupancies, the Town has 85 schools and 122 identified daycare centres that represent higher fire life-safety risks.
- Over the five-year period from January 1, 2016, to December 31, 2020, the Town averaged 65 structure fires per year.

- Over the five-year period from January 1, 2016, to December 31, 2020, structure fires occurring in Group C Residential occupancies account for 77.1% of total structure fires within the Town.
- Over the five-year period from January 1, 2016, to December 31, 2020, structure fires occurring in Group F Industrial occupancies account for 5.2% of total structure fires within the Town.
- Over the five-year period from January 1, 2016, to December 31, 2020, structure fires occurring in Group E Mercantile occupancies account for 6.1% of total structure fire loss within the Town, higher than the Province by 2.7%.
- The majority of reported fire related civilian injuries (24) and fatalities (3) occurred in Group C-Residential Occupancies.
- Of the fires occurring in the Town over the five-year period from January 1, 2016, to December 31, 2020, the leading cause of unintentionally set fires was due to misuse of ignition source at 29% (91 fires), compared to 29.5% in the Province.
- Of the fires occurring in the Town over the five-year period from January 1, 2016, to December 31, 2020, the second most common cause of unintentionally set fires was due to mechanical/electrical failure at 16.6% (52 fires), compared to 15.3% in the Province.
- Of the fires occurring within the Town over the five-year period from January 1, 2016, to December 31, 2020, 27.4% of fires had a reported ignition source of cooking equipment, which is 10.5% higher than the Province (16.9).
- Of the fires occurring within the Town over the five-year period from January 1, 2016, to December 31, 2020, 13.7% of fires had a reported ignition source of open flame tools/smokers' articles.
- Over the five-year period from January 1, 2016, to December 31, 2020, of the fire loss incidents in Group C – Residential occupancies, 14.0% of incidents did not have a smoke alarm present (compared to 17.4% in the Province).
- Over a five-year period from January 1, 2016, to December 31, 2020, of the fire loss incidents in Group C – Residential occupancies, 15.7% of incident had a smoke alarm present but did not work.
- Over the five-year period from January 1, 2016, to December 31, 2020, of the fire loss incidents in Group C – Residential occupancies, 47.1% of incidents had a smoke alarm present and operating compared to 44.6% in the Province.

- There is a higher concentration of lower median income in the areas southeast and of Station 1, southeast of Station 5, the middle to west areas of Station 3, and an area southeast of Station 4.

In summary, when considering their age, past fire losses, number of fire-related fatalities and injuries, and total proportion of property stock in the Town of Oakville, Group C – Residential Occupancies constitute the most vulnerable type of property stock. Group C – Residential Occupancies include a wide range of building types such as:

- Single-family dwellings;
- Multi-unit stacked townhouses and low-rise multi-unit buildings;
- Seniors' residence buildings;
- High-rise multi-unit buildings;
- Boarding, lodging and rooming houses;
- College/university and student rental housing; and
- Hotels and motels.

For specific building types, the OFC and OBC define several fire and life safety system criteria, which vary according to building design and intended use. Group C-residential occupancies are categorized by considerable variation in their fire and life safety equipment. For example, in single-family dwellings, smoke alarms are required to be installed on every floor and outside of every sleeping area. Additionally, carbon monoxide alarms are required to be installed under specific circumstances. On the contrary, for a high-rise Group C residential occupancy, a FSP, a monitored fully integrated fire alarm system, and other life and fire systems are mandatory.

The proposed Fire Inspection/Enforcement Program includes the following strategies:

- Fire Inspection/Enforcement Targets;
- Enhanced Pre-planning Program;
- Enhanced Smoke Alarm Program; and
- Targeted Fire Inspection Program.

The implementation of these strategies is consistent with current industry best practices and standards such as the NFPA 1300 – Standard on Community Risk Assessment and Community Risk Reduction Plan Development.

This standard identifies the importance of developing a CRRP and the optimization of risk mitigation and risk reduction as the first two lines of defence in a comprehensive community fire prosecution plan.

7.10.1 Proposed Fire Inspection/Enforcement Targets

Table 14 illustrates an enhanced fire inspection cycle of the OFD based on the major building occupancies classifications identified within the OBC, the FUS fire inspection frequencies and the inspection frequency targets proposed by this FMP. Achieving the proposed fire inspection/audit targets is in alignment with the FMP's fire strategic goals where the Town is committed to optimizing the first two lines of defence in the delivery of public education and fire prevention programs. However, to be successful in achieving the proposed inspection schedule, it will be necessary to do it in a phased approach. This approach will require a three-step process of which phase 1 and 2 should be consider in the short term (1 to 5 years):

1. The OFD is successful in documenting and extract credible data from their RMS that tracks the current load under existing conditions;
2. The OFD performs a NFPA 1730 exercise to identify staffing resource needs, taking into account required tasks and time demands. This exercise will identify the required FTEs required to perform the current workload for Fire Chief and OBC inspections as well as the future proposed inspection cycle; and
3. Establish a strategic plan to grow the fire prevention division staffing needs to meet the proposed inspection cycle form the NFPA 1730 analysis.

From our interviews and the review of OFD documents it appears the fire prevention division has a heavy workload resulting from OBC inspections and the current Fire Chief inspection. The proposed Fire Chief inspection cycle identified in Table 14 is aligned with the fire strategic goals of this FMP:

1. The Town of Oakville is committed to the use of its CRA, as required by O. Reg. 378/18, as a fire strategic goal to assess the fire safety risks within the community as the basis for developing clear goals and objectives for all fire protection services provided by the Oakville Fire Department.
2. The Town of Oakville is committed to the optimization of the first two lines of defence, including the delivery of public education and fire prevention programs, and the use of fire safety standards and fire code enforcement as a fire strategic goal

for the Oakville Fire Department in providing a comprehensive fire protection and risk-reduction program within the community.

3. The Town of Oakville will continue to prioritize strategies that support the continuous improvement in providing sustainable fire protection services that provide the most effective and efficient level of services resulting in the best value for the community.
4. Town of Oakville supports the delivery of fire protection services required to meet the needs and circumstances of planned future community growth and intensification.

This positive step forward for the will also require the OFD to further enhance its utilization of on-duty fire suppression staff to further assist in the delivery of the enhanced Home Awareness Program and Fire Pre-planning Program. In our view, the OFD should implement targeted fire inspections of Group C – Residential occupancies with priority to the areas of the Town identified by the CRA.

Table 14: Proposed Fire Inspection Targets

Group	Occupancy Type	OFD Current Inspection Frequency	FUS Inspection Frequency	Proposed Inspection Frequency
A	Assembly	Business licensing – all new businesses, ownership changes All others – complaint or request	6 Months	2 Years
B	Care/Detention	Vulnerable Occupancies – annually All others – complaint or request	Annually	Annually
C	Residential: Low/rise multi-family	Complaint or request	6 Months	Pre-plan
	Residential: High/rise multi-family	Complaint or request	6 Months	Pre-plan and Home Awareness Program
	Residential: Two unit residential	Complaint or request	6 Months	Targeted Fire Inspection Program
	Residential: Seniors residential	Compliant or request	6 Months	Annually
	Residential: Boarding, lodging, rooming	Annually	6 Months	Annually

Group	Occupancy Type	OFD Current Inspection Frequency	FUS Inspection Frequency	Proposed Inspection Frequency
	Residential: Group homes	Complaint or request	Annually	2 Years
	Residential: Hotels/motels	Complaint or request	6 Months	3 Years
	Residential: College/university housing	Complaint or request	Annually	2 Years
	Residential: Student rental housing	2 years, or ownership change	Annually	2 Years
D	Business: High/rise office	Complaint or request	Annually	Pre-plans
	Business: Low/rise office	Complaint or request	Annually	Pre-plans
	Business: Business licence	Ownership change	Annually	Pre-plans
E	Mercantile: Shopping centres	2 years, or ownership change	Annually	Pre-plans
	Mercantile: Shops/stores	Complaint or request	Annually	Pre-plans
F	Industrial: F1-High Hazard	Complaint or request	3 to 6 Months	Complaint or request
	Industrial: F2-Medium Hazard	Complaint or request	3 to 6 Months	Complaint or request
	Industrial: F3-Low Hazard	Complaint or request	3 to 6 Months	Complaint or request

Source: OFD

Operational Recommendation #23: That the Oakville Fire Department consider the implementation of a proactive fire inspection program as outlined in this FMP.

7.10.1.1 Proposed Pre-Planning Program

This approach will necessitate that the OFD establish a training initiative that within a timeframe of one to three years would aim to educate one firefighter or officer from each crew to the level of expertise required to become a Fire Inspector I. Priority should be given, over the long term (three to five years), to certifying all officers including acting officers as Fire Inspector I and Fire and Life Safety Educator I.

In the event a firefighter/officer identify a significant fire and life safety concern, they would have the ability to request an immediate response of a fire prevention officer, or alternatively a follow up fire inspection by a fire prevention officer.

Operational Recommendation #24: That consideration be given to the development and implementation of a Pre-planning Program as outlined in the FMP.

7.10.1.2 Proposed Enhanced Fire Investigation and Reporting

The fire cause and determination process often enable the fire service to assess compliance with local by-laws as well as building and fire codes. Further assessment as to how building occupants reacted to the fire and the building's performance including fire protection features, can be used to shape a fire department's fire prevention and public education initiatives as well as fire suppression effectiveness. Each fire investigation provides an opportunity to educate the public in an effort to change human behaviour to reduce the risk of fire.

The "key findings" of the CRA indicate the incidence of fires involving misuse of ignition source, open flame tools/smoker's articles within the Town are relatively equal to the rest of the province. However, these findings would still suggest that there would be value in developing public safety messaging and initiatives specific to these types of fires.

In our experience, information relating to fires, including the age and gender of the person(s) associated with the incident, also provides insight into the potential target audience(s) for the public education programs and fire prevention initiatives. This information is included in Standard Incident Reports (SIR), which are submitted to the

Office of the Fire Marshal and Emergency Management. Ensuring the information included in the SIR is accurate and complete, should be a considered a priority for the OFD. In our view, using the data collected to inform fire prevention and public education activities is crucial to reducing and mitigating the fire risk within a community.

Additional fire investigation training may be necessary to ensure suppression staff are capable of performing minor fire investigations where the fire does not meet the requirements of OFD SOP 4-1. Additional training may also be necessary for those suppression officers responsible for completing SIR to ensure accuracy and completeness as well as reporting consistency amongst all OFD personnel to ensure the OFD is capturing accurate data with respect to fire origin and cause.

Operational Recommendation #25: That consideration be given to developing an enhanced investigation and reporting strategy whereby data gathered through the fire origin and cause can be used for the purposes of developing and implementing public education and fire prevention initiatives as presented in the proposed FMP.

7.10.1.3 Proposed Enhanced Home Awareness Program

The current Home Awareness Program in Oakville consists of in-service fire crews performing door to door visits to deliver fire safety material to the residents. In the event the residents are not home at the time of the crews visit the crew is to leave literature at the residence. The yearly program location(s) is decided each year by fire management where a targeted group or location is identified.

In our view the Town of Oakville would benefit by introducing an enhanced Home Awareness Program fully integrated with targeted public education programs specifically in those areas of the Town identified by the CRA where a higher frequency structure fires and false alarms have been occurring. The enhanced program would strive to reduce the number of incidents where there is no smoke alarm or a defective detector has been found. In addition, an enhanced program will also include comprehensive data collection of the program and the creation of performance benchmarks to evaluate the program's success. Collectively this program should have a vision of promoting the importance of smoke alarms, carbon monoxide alarms and home escape planning in an effort to reduce the incidents of missing or defective smoke alarms and improving fire and life safety in the Town of Oakville.

Operational Recommendation #26: That consideration be given to implementing the proposed enhanced Home Awareness Program focusing on missing or defective smoke detectors as outlined in the FMP.

7.10.1.4 Proposed Enhancement of Fire Inspection/Enforcement Reporting

During the preparation of this FMP, the OFD was able to provide an overview of the current fire inspection/enforcement program which consists of request and complaint inspection only. However, our research indicates that the department does not currently maintain or have the ability to retrieve detailed statistical information related to the number of inspections and workload required to perform these current inspections. With the lack of good data, the OFD is unable to quantify any potential gaps in the Fire Prevention Division's activities.

The retrieval and monitoring of good data is critical in today's fire service to ensure the fire department is operating in an effective and efficient manner. Regular review of program data should be monitored and evaluated on an ongoing monthly, and annual basis as outlined in the Corporate Procedure MS-FES-001-001. In our view this gap further supports the need for the OFD to upgrade its information technology and software to improve its records management process and reporting.

Operational Recommendation #27: That consideration be given to enhancing the tracking of all workload associated with the OFD fire inspection and enforcement programs as presented within the proposed FMP.

7.10.2 Proposed Enhanced Public Education Program

The current public education program provided by the OFD is comprehensive and in our view, reflects current municipal best practices. The CRA does include two "identified risks" that should be considered to enhance the current public education programming provided by the OFD. These include:

- The 2021 Census data indicates that children aged 14 and under, represent 18.0% of the Town's total population. Seniors (those 65 years and over) are considered to represent one of the highest fire risk groups across the Province based on residential fire death rate. According to the 2021 Census, seniors represent 15.7% of the Town's total population; and

- The largest increase in proportion of seniors will be due to the baby boomer generation reaching 65. The 2021 census indicates the baby boomer generation is comprised of people aged 56-75 and make up nearly one quarter (24.9) of the population of Oakville.

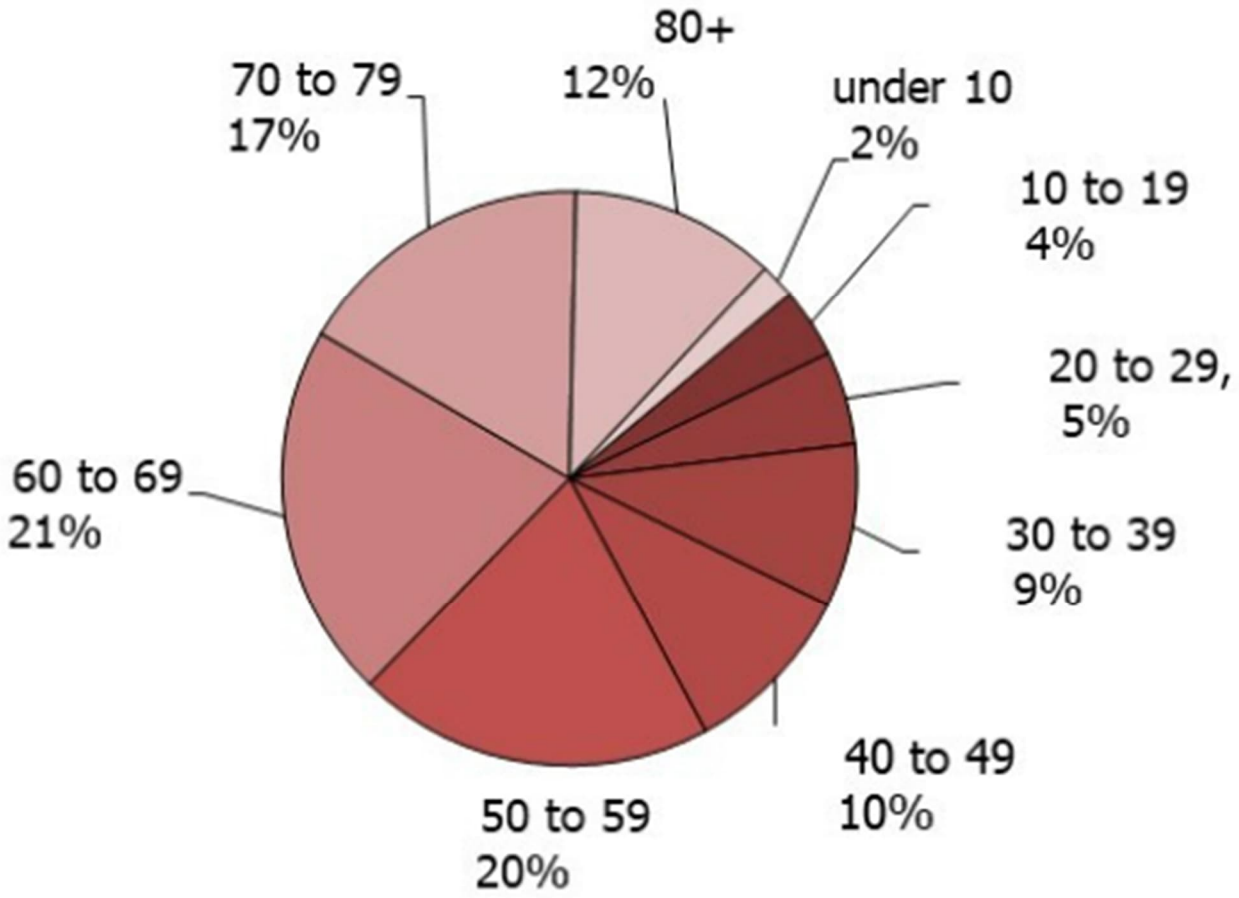
Developing a more proactive public education program should also been informed by the "key findings" contained within the CRA that indicate the following:

- Of the fires occurring in the Town over the five-year period from January 1, 2016, to December 31, 2020, the leading cause of unintentionally set fires was due to misuse of ignition source at 29% (91 fires), compared to 29.5% in the Province.
- Of the fires occurring in the Town over the five-year period from January 1, 2016, to December 31, 2020, the second most common cause of unintentionally set fires was due to mechanical/electrical failure at 16.6% (52 fires), compared to 15.3% in the Province.
- Of the fires occurring within the Town over the five-year period from January 1, 2016, to December 31, 2020, 27.4% of fires had a reported ignition source of cooking equipment, which is 10.5% higher than the Province (16.9).
- Of the fires occurring within the Town over the five-year period from January 1, 2016, to December 31, 2020, 13.7% of fires had a reported ignition source of open flame tools/smokers' articles, which is 0.03% lower than the Province (14.0%).

7.10.2.1 Proposed Enhanced Seniors Fire Safety Education Program

According to the 2021 census data presented within the CRA seniors (those 65 years and over) represented 15.7% of Oakville's total population. In addition, 13.1% of the total population fall into the age range of 55 to 64, representing a cohort aging towards the senior's demographic of 65 years of age or older. Seniors are considered to represent one of the highest fire risk groups across the province based on residential fire death rate as shown in Figure 6.

Figure 6: 2012 to 2021 Residential Fire Death Rate by Age of Victim (OFM)



Source: OFM

In our view, these factors support the need for a dedicated senior's fire safety education program. Further utilization of existing community relationships and investigating additional partnerships may be an effective strategy for consideration towards enhancing the department's current senior's fire safety education program.

Some jurisdictions have opted to work collaboratively with other service agencies to reach seniors and other "at risk" populations within the community. The program involves the agencies collectively preparing a checklist identifying safety issues each organization has authority to address. The checklists are to be utilized when home visits, inspections or nursing care is provided. The checklist includes contact information for each agency so that the individual noting the issue can forward his/her concern and trigger the appropriate follow up.

Agencies that have been involved in other communities include:

- Victorian Order of Nurses (VON);
- Community Care Access;
- Ontario Home Health;
- Meals on Wheels;
- Health Units;
- Fire departments;
- Police departments;
- Municipal building departments;
- EMS; and
- Retirement Home Regulatory Authority.

These types of partnerships enhance the safety of seniors within a community, promote interagency collaboration and often assist in mitigating circumstances or situations which may lead to emergencies if left unchecked.

Operational Recommendation #28: That consideration be given to enhancing the fire safety program for seniors (65+) within the community as presented within the proposed FMP.

7.10.2.2 Proposed Targeted Fire Safety Education Program

The CRA offers valuable insights on the areas of the municipality that have traditionally seen a higher incidence of carbon monoxide incidents and false fire calls. Incorporating targeted public education initiatives into the Home Awareness program, reaching out to established neighbourhood organizations and building owners, or executing a social media campaign would all be advantageous for these areas.

Operational Recommendation #29: That consideration be given to implementing a targeted public education program around carbon monoxide and false alarm incidents as presented within the proposed FMP.

7.10.2.3 Proposed Enhanced Public Education Reporting

During the preparation of this FMP, the OFD was able to provide an overview of the department's current public education program. However, our research indicates that the department does not currently maintain detailed statistical information related to:

- the amount of fire safety education delivered;
- the amount of fire safety education material that is distributed on an annual basis;
- statistics related to the number of people directly impacted by each program; and
- the workload associated with each program.

As previously mentioned, good data is paramount to the ability of a department to analyse and report on the success of programs. In our view this lack of good data further supports the need for the OFD to upgrade its information technology and software to improve its records management process and reporting.

Operational Recommendation #30: That consideration be given to enhancing the tracking of all workloads associated with the OFD public education programs as presented within the proposed FMP.

7.10.2.4 Community Risk Reduction Plan

As referenced throughout this FMP, community risk reduction plans focus on a holistic approach to mitigating or preventing risk within a jurisdiction, utilizing the five E's namely: education, enforcement, engineering, economic incentive and emergency response. It also involves strategies that ensure the right resources are being used, be it a targeted public education campaign for seniors or dispatching appropriate personnel and equipment to a medical call. This approach enables municipalities to provide fire protection services in an efficient and effective manner. Based on our research and observations of the OFD, there would be value in developing a Community Risk Reduction Plan for the Town.

Recommendation #6: That consideration be given to developing a Community Risk Reduction Plan as an all-inclusive approach to reducing risk within the Town, as presented within the proposed FMP.

7.10.3 Fire Prevention Division Staff Resource Summary

The proposed Fire Inspection/Enforcement Program and Enhanced Public Education Programs will have an impact on the current workload within this division. The Town was able to increase the Fire Prevention Division's workload capabilities with the addition of two FPOs and one PEO in the past two years, however, these gains will not be sufficient to support the level of workload associated with the enhanced programs recommended. In addition, to ensure the division is capable of managing the proposed

enhanced programs, manage day-to-day activities and be proactive in setting short, medium and long-term divisional goals, we have recommended the CFPO be removed from having a dedicated district to manage and spend their time proactively managing the divisions activities. In our view, the OFD should first seek to extract the CFPO from the responsibilities of covering a district and second expand the administrative support for this division to minimize wherever possible, the administrative tasks of the fire prevention inspectors. The OFD should also be proceeding with strategies to optimize the utilization of on-duty firefighters to assist in mitigating the workload on the current fire prevention inspectors. This strategy is also consistent with the findings of the 2016 FMP Report that recommended "that suppression staff be trained to conduct inspections in Class D, E and F (2 and 3) occupancies on an ongoing basis"[32] Additional consideration for fire prevention resource management would be for the OFD to undertake an NFPA 1730 Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations review. This review will provide comprehensive exercises to identify staffing resource needs, taking into account required tasks and time demands.

In our view, these strategies will collectively assist in understanding and to begin to manage some of the additional workload associated with the proposed enhanced fire inspection/enforcement and public education programs. It will be critical for the OFD to also begin a comprehensive process of gathering data that tracks the existing workload of all staff within this division. In our experience, the results of a more comprehensive workload tracking process will allow the CFPO and other members of the senior management team to monitor and report on program effectiveness as well as the workload of division personnel.

For the OFD to proactively manage the NFPA 1730 analysis and look at the implementation of the enhanced programing as recommended in this FMP, we believe there will be an identified need to hire one more fire prevention officer in the short-term (one to three years) to cover the district currently assigned to the CFPO. This will free up the CFPO to proactively manage the division and subject to the OFD implementing more comprehensive workload analysis through NFPA 1730, permit the

[32] Oakville 2016 Fire Master Plan – Fire Prevention Section page 69.

CFPO to manage this process and proactively manage the division's activities and long-range planning.

Recommendation #7: That consideration be given to hiring one additional Fire Prevention Officer in the short term (one to three years) to cover the district currently assigned to the CFPO as recommended in this FMP.

7.11 Fire Prevention Summary

The analysis within this FMP indicates that the OFD is currently meeting its legislated fire inspection and public education responsibilities as required by the FPPA. The current fire prevention and public education programs provided by the OFD are predominantly based on the historical needs of the community versus being informed by an identifiable level of fire risk or need within the community. The companion Community Risk Assessment provides the opportunity for the OFD to align its fire prevention and public education with the "identified risk" and "key findings" of the CRA analysis. Therefore, the recommendations for this division support a shift towards aligning the fire prevention and public education programs with the findings of the CRA. The recommendations presented also support the need for the department to implement a comprehensive and ongoing process to assess the goals and objectives of each program with the associated workload. This process will provide for a comprehensive reporting process to Council and the community, while also enabling the senior management team to monitor the effectiveness of each program, as well as the associated workload within the division.

In the short-term, this FMP recommends increasing the administrative support for this division and fire management, as it will have a significantly increase in the efficiency and effectiveness of fire inspection staff. This plan also recommends the upgrading of the RMS in relation to fire prevention in an effort to provide credible data related to their program activities. Additionally, a recommendation to optimize the utilization of on-duty firefighters to deliver basic fire prevention and pre-planning programs to further allow the more highly qualified fire inspection staff to conduct more complex and targeted fire inspections. In our view, these strategies would be implemented within the short-term one to three years of after Council receives this FMP. Subject to the OFD extracting the CFPO from the responsibility of covering a district, we believe there will be an identified need to hire one more fire prevention officer in the short-term (one to

three years). In addition, and subject to freeing the CFPO of district responsibilities the OFD undertake a comprehensive review through the application of NFPA 1730 analysis.

7.12 Recommendations

7.12.1 Recommendations

Recommendation #4: That as part of the reorganization of the Administrative Support Team the OFD convert the 0.5 FTE Fire Prevention/Public Education Division administrative position (currently shared with Training) to a FTE administrative role dedicated to support the Fire Prevention/Public Education Division.

Recommendation #5: That the Town of Oakville incorporate the Fire Prevention Division space requirements in the future design of Fire Station 9 as outlined in this FMP.

Recommendation #6: That consideration be given to developing a Community Risk Reduction Plan as an all-inclusive approach to reducing risk within the Town, as presented within the proposed FMP.

Recommendation #7: That consideration be given to hiring one additional Fire Prevention Officer in the short term (one to three years) to cover the district currently assigned to the CFPO as recommended in this FMP.

7.12.2 Operational Recommendations

Operational Recommendation #16: That the CFPO's day to day responsibilities do not include coverage of a district as outlined in this FMP.

Operational Recommendation #17: That the Oakville Fire Department undertake a review of the Fire Protection and Emergency Management Policy (Corporate Policy MF-FPS 001), Fire Prevention Procedure (Corporate Procedure MF-FPS-001-001), and OFD Fire Prevention Policy (Policy #4-5) as outlined in this FMP.

Operational Recommendation #18: That the OFD establish a standard operating procedure to formalize the process of receiving and managing fire safety requests and complaints.

Operational Recommendation #19: That the OFD acquire a Records Management System that is capable of storing and exporting reliable and valuable data on the Fire Prevention Division's activities as identified in this FMP.

Operational Recommendation #20: That the OFD develop a NFPA 1035–Fire and Life Safety Educator I and NFPA 1031–Fire Inspector I training program as part of the recruit firefighter training program and/or part of the officer development training program to enable the Suppression Division to enhance the delivery of the first two lines of defence as outlined in this FMP.

Operational Recommendation #21: That the OFD establish a standard operating procedure to identify the goals, objectives, and procedures for the Home Awareness Program.

Operational Recommendation #22: That the OFD establish a standard operating procedure to identify the procedure to be followed by suppression crews if a missing or defective smoke/carbon monoxide alarm is identified by the OFD.

Operational Recommendation #23: That the Oakville Fire Department consider the implementation of a proactive fire inspection program as outlined in this FMP.

Operational Recommendation #24: That consideration be given to the development and implementation of a Pre-planning Program as outlined in the FMP.

Operational Recommendation #25: That consideration be given to developing an enhanced investigation and reporting strategy whereby data gathered through the fire origin and cause can be used for the purposes of developing and implementing public education and fire prevention initiatives as presented in the proposed FMP.

Operational Recommendation #26: That consideration be given to implementing the proposed enhanced Home Awareness Program focusing on missing or defective smoke detectors as outlined in the FMP.

Operational Recommendation #27: That consideration be given to enhancing the tracking of all workloads associated with the OFD fire inspection and enforcement programs as presented within the proposed FMP.

Operational Recommendation #28: That consideration be given to enhancing the fire safety program for seniors (65+) within the community as presented within the proposed FMP.

Operational Recommendation #29: That consideration be given to implementing a targeted public education program around carbon monoxide and false alarm incidents as presented within the proposed FMP.

Operational Recommendation #30: That consideration be given to enhancing the tracking of all workloads associated with the OFD public education programs as presented within the proposed FMP.

8.0 Training Division

Over the past several years, Ontario's municipal fire departments have undergone significant changes to their educational programs as part of the Province's "modernization of fire safety training" initiative. Most notably, the following four policy changes have transformed the direction of firefighter training and education:

1. The OFC's expansion of NFPA Pro-Qual certification programs to RTCs and online courses.
2. The closure of the Ontario Fire College's Gravenhurst Campus.
3. The establishment of Learning Contracts through which departments may teach OFC curriculum via internal training programs.
4. The enactment of O. Reg. 343/22 – Firefighter Certification.

Together these policies set the standards for firefighter training, and the process for required certification. While these changes have had an impact on all municipal fire departments, they are especially pertinent to the OFD Training Division, who in addition to teaching internal staff also serves as one of the province's 28 RTCs.

The following section will review relevant regulations and policies related to firefighter training in Ontario before providing an analysis of the OFD's internal training programs and the department's role as an RTC.

Recommendations and strategies are provided for consideration where opportunities exist to assist the department with maintaining compliance with applicable legislation, or to improve programs or services to better align the department in comparison to current industry best practices.

8.1 O. Reg. 343/22 – Firefighter Certification

On April 14, 2022, the Ministry of the Solicitor General filed O. Reg 343/22 – Firefighter Certification, requiring all Ontario firefighters to be certified to NFPA Pro-Qual standards over the next four to six years.

To fully understand the impact of this certification it is important to note the distinction between "qualifications" and "certifications". The NFPA training standards and related qualifications do not consider or require certification. Instead, NFPA standards are

intended to identify the required training for an individual to attain a recognized qualification related to specific positions, roles and responsibilities within the fire service. Conversely, certification is completed by third party organizations such as the International Fire Service Accreditation Congress (IFSAC) or the Fire Service Professional Qualifications System (Pro-Board) which provide independent evaluation to measure individual performance as set by the standards. Therefore, it is possible for fire departments to have trained to a relevant NFPA standard without having members certified with the necessary credentials.

Prior to the implementation of O. Reg. 343/22, many fire departments pursued qualification but not certification, a process that was considered an acceptable form of best practice training for firefighters. Moving forward O. Reg. 343/22 explicitly requires all firefighters to be "certified" by either "the Fire Marshal; or an accreditation from the IFSAC, or a Pro Board seal, that is recognized by the Fire Marshal as equivalent to the certification provided by the Fire Marshal". In summary, regardless of the department's existing training and "qualifications", Ontario's new firefighter legislation requires departments to have their firefighters certified to the prescribed NFPA standards, ensuring that such certification is issued by the OFM, IFSAC, or a Pro Board seal.

A firefighter who has previously obtained IFSAC or Pro Board certifications will continue to have these existing certifications recognized even "if the requirements for obtaining that certification are subsequently updated or changed". This includes firefighters who may have applied for a "letter of compliance" in response to the OFM's 2014 "Grandfathering Policy". A similar grandfathering opportunity was provided as part of O. Reg. 343/22, now referred to as the 'Legacy Process'; however, unlike the 2014 policy, this new Legacy Process can only grant partial skills certifications known as Ontario Seal Curriculum. Because O. Reg. 343/22 requires that larger career departments that offer a list of "full service" skills be certified to the complete standard, OFD is not eligible for any "Legacy Process" certification.

8.1.1 Suppression Staff Certification Levels

O. Reg. 343/22 requires that each municipality's certification needs be based on the level of fire suppression services offered through their respective Establishing and Regulating By-law. Based on our review of Oakville's 2019 Establishing and Regulating

By-law and 2021 amendment, OFD's suppression staff will require NFPA certifications related to the provision of:

- Fire ground and suppression activities (NFPA 1001 Level I and II/1002/1021 Level I/ 1521);
- Vehicle extrication (NFPA 1001 Level II);
- Rope rescue (NFPA 1006 2021 Edition, Chapter 5, Technician);
- Confined space rescue (NFPA 1006 2021 Edition, Chapter 7, Technician);
- Surface water rescue (NFPA 1006 2021 Edition, Chapter 17, Technician);
- Swiftwater rescue (NFPA 1006 2021 Edition, Chapter 18, Technician);
- Ice water rescue (NFPA 1006 2021 Edition, Chapter 20, Technician); and
- Hazardous materials response (NFPA 1072, Technician).

While determining a department's exact certification needs can be complicated, the required NFPA Pro-Qual Standards listed in O. Reg. 343/22 can generally be broken down into two categories: 1) Certifications needed for the provision of fire suppression services, and 2) those needed for the delivery of specialized rescue services.

Departmental records indicate that a large percentage of OFD's firefighters already hold the needed fire suppression certifications. However, many staff members will require additional training connected to the provision of the specialized rescue services listed in the Municipality's 2021 E&R By-law amendment. Table 15 published using data from August 2023, provides an overview of the department's fire suppression certifications as they relate to the newly required NFPA Pro-Qual standards. Additional details on the department's specialized rescue certifications can be found in Section 7.5. It is also worth noting that O. Reg. 343/22 also prescribes certification requirements for Training Instructors, Fire Prevention Inspectors/Investigators, Fire and Life Safety Educators and Emergency Communicators. Details of these certification requirements for other divisional staff will be addressed in their respective sections of this FMP.

Table 15: OFD Suppression Staff Certification and O. Reg.343/22 Compliance

Required Certification	Applicable Ranks	Existing Compliance	Compliance Deadline
NFPA 1001 Firefighter I/II	Firefighters Acting Captains Captains Assistant Platoon Chiefs	100%	July 1, 2026
NFPA 1002 Pump Ops	Firefighters Acting Captains	100%	July 1, 2026
NFPA 1021 Fire Officer I[33]	Acting Captains Captains Assistant Platoon Chiefs Platoon Chiefs	74%	July 1, 2026
NFPA 1521 Incident Safety Officers[34]	Acting Captains Captains Assistant Platoon Chiefs Platoon Chiefs Training Officers	31%	July 1, 2026

8.1.2 OFD Certification Options

To ensure ongoing compliance with O. Reg. 343/22, the fire suppression training provided by the OFD must meet the NFPA Pro-Qual Standards and be formally accredited from either the IFSAC, Fire Service Professional Qualification System (Pro-Board), or the OFM.

In Ontario, the OFM's Academic Standards and Evaluation (AS&E) section is the only authority having jurisdiction (AHJ) able to provide either IFSAC or Pro-Board accredited certification. Outside of the previously mentioned grandfathering process, NFPA Pro-Qual certifications can only be obtained through an official AS&E testing process, which

[33] Includes NFPA 1041 which is not specifically required by O. Reg. 343/22, but is a prerequisite for NFPA 1021 Certification.

[34] OFD's RTC already has three separate NFPA 1521 courses scheduled for fall 2023, which should significantly close this certification gap.

requires a proctored written exam and may also include practical evaluations. Fire Departments seeking to train staff through these approved courses have six options:

1. Ontario Fire College courses, which may be held at a RTC, entirely online, or in a blended format;
2. Registered private career college courses;
3. Out of province certification programs;
4. Third-party training providers;
5. A learning contract with the OFC whereby qualified staff can deliver OFC curriculum in-house and certification testing is completed by an AS&E proctor; and
6. Internally developed curriculum that is compliant with the relevant NFPA standard. As with the OFC Learning Contract model, all certification testing must be completed by an AS&E proctor.

Logically, there are pros and cons to each training option and departments will have to choose the certification path that fits their individual needs and circumstances. OFD is in the relatively unique position of having a diversely certified group of training officers and on-shift training instructors combined with an impressive training ground, and status as one of the Province's 28 RTCs. Together, these assets suggest that locally delivered RTC courses or internally based training programs would be the preferred method of certification, and that the OFD avoid the use of private career colleges and out of province certification programs which would be prohibitively expensive. The following subsections will expand on OFD's internal training programs, and how these existing systems might be further leveraged in pursuit of 100% compliance with O. Reg. 343/22.

8.1.3 OFD as a Regional Training Centre

As one of the Province's 28 RTCs, the OFD is in an advantageous position to achieve O. Reg.343/22 compliance. Since the closure of the Ontario Fire College's Gravenhurst Campus in 2021, RTC's have become one of the primary training routes through which Ontario's firefighters may receive certification. As a recognized RTC, Oakville has the capability to run NFPA Pro-Qual courses supported by the OFC and advertised through the OFC's Course Calendar. Additionally, OFD's RTC status allows the department to maintain student rosters for each course and prioritize its own staff on offered training

programs. Vacant seats can then be filled by applying firefighters from across the region or province as need dictates.

This system conveniently enables OFD to deliver a multitude of NFPA Pro-Qual courses and efficiently takes advantage of fixed costs economic principles by filling empty seats with paying students from other departments. Furthermore, this RTC model has the potential to expand the educational value of each course as it provides an increase in perspectives that can help to balance the insular qualities that are inherent in the structure of Ontario's municipal fire services.

From August 1, 2022, to May 31 ,2023, OFD's RTC hosted 7 NFPA Pro-Qual courses focusing on Company Officer and Instructor certifications, and has three NFPA 1521 Incident Safety Officer courses scheduled for the fall of 2023. The certifications provided through these courses are reflected in OFD's high NFPA 1021 compliance rate (74%), and the scheduled 1521 courses are expected to equally address this identified qualification gap.

While there are many positive benefits associated with OFD's RTC status, this arrangement comes with an increased administrative workload. As part of the agreement with the Ontario Fire College, each RTC must provide a dedicated "Coordinator" to act as the primary point of contact with the OFC and is responsible for requesting classes, enrolling students, providing class specific information to all attendees and being available to assist with the class administration as needed. In Oakville these additional duties are assumed by the Chief Training Officer (further details in Section 7.2.1). The OFC encourages departments to create a cost recovery model for these additional duties, which is to be paid for through student fees. In addition to paying for any administrative costs, these student fees may also cover consumables, refreshments, and depreciation of capital assets caused by increased use.

However, despite these challenges OFD's RTC status remains a net positive for both the department and the larger firefighting community. Administrative costs associated with the program can be recovered through calculated student fees, and are marginal when compared to the economic advantage of leveraging a fixed cost delivery model. It is also important to consider that not all educational benefits are measured fiscally and that the inclusion of outside students is likely to increase the diversity of perspectives and

value associated with each course. For these reasons it is recommended that OFD continue its RTC partnership with the OFC.

Operational Recommendation #31: That the OFD continue to provide NFPA Pro-Qual training courses through its established RTC, with ongoing review of the administrative and operational costs associated with outside student enrollment to adjust student fees accordingly.

8.1.4 OFD Internal Certification Programs

As noted above, departments may also choose to run their own NFPA Pro-Qual certification programs using either an approved learning contract from the OFC, or through the development of their own NFPA compliant curriculum. In both cases certification and testing remains the jurisdiction of the Ontario Fire Marshal's AS&E branch and must be coordinated through this office. These internally run courses are an excellent option for departments without an RTC status or as a means of complementing available RTC programs, and are more flexible in their administration than programs hosted through the OFC Course Calendar.

The Learning Contract model is very similar to the one used by RTCs to deliver OFC developed courses. Through a signed contract, fire departments are permitted to teach OFC curriculum for certified NFPA programs provided they supply qualified instructors and the required logistical support. By necessity, courses developed and issued by the OFC must be suitable for every fire department in the province. Again, there are pros and cons associated with this model. While there are many benefits to such standardization, larger departments like the OFD are often required to supplement these materials with lessons related to their specific departmental policies and procedures.

Alternatively, departments may develop their own NFPA based training programs. However, unlike the Learning Contract model, supporting materials are not provided by the OFC. Instead, instructors must create their own NFPA compliant curriculum. This process is more time consuming, but does allow departments to cater to their specific needs, provided they meet the NFPA's knowledge and performance requirements. The final testing and certification process delivered by AS&E ensures the integrity of these programs and the student's ability to perform the skills outlined in the NFPA standards.

OFD has successfully run many of these internal training programs needed to certify suppression members in various NFPA disciplines. In 2021 alone, the department certified:

- 220 staff to NFPA 1006 Ice Rescue Level 1 (Operations equivalent);
- 120 staff to NFPA 1006 Ice Rescue Level 2 (Technician equivalent);
- 27 staff to NFPA 1002 Pump Operations; and
- Eight staff to NFPA 1035 Fire and Life Safety Educator.

This system of internal training initiatives nicely compliments the training programs offered through the department's RTC and should continue to be used as a more flexible option for the credentialing of departmental personnel.

Operational Recommendation #32: That the OFD continue to use in-house certification initiatives with the OFM's AS&E testing in addition to the more formal courses offered through the department's RTC.

8.2 Training Division Staff Resources

Interviews with departmental staff show that the Oakville Training Division has undertaken a complete "rebuild" over the past six years. Numerous stakeholders described this team as a group of capable individuals who are a combined asset to the organization. This team works under the leadership of the Deputy Fire Chief of Training and consists of one Chief Training Officer, one ACTO and three TOs. These five full-time positions are supported by a shared administrative staff member, who is also responsible for assisting with Fire Prevention's clerical duties. The OFD also benefits from a complement of 34 on-duty Fire Suppression members who also serve as On-Shift Training Instructors (OSTI) capable of teaching specialized programs related to their subject matter expertise. Continuing to support and expand this OSTI program will be a vital part of OFD's certification process, and creates positive morale amongst participants who are willing to share their skills in pursuit of bettering themselves and the overall department.

8.2.1 Training Division Staff Qualifications

Collectively, OFD's training staff holds a wide variety of NFPA Pro-Qual credentials, which is not only important for delivering different training programs, but it is also a

necessary requirement for compliance with the new O. Reg.343/22. In the same way this new certification regulation sets out the necessary training requirements for fire suppression personnel, it also lists the minimum standards for a department's training division staff. Fire department training instructors must, at a minimum, be certified in NFPA 1041 "Standard for Fire and Emergency Service Instructor Professional Qualifications" Level I for basic firefighter skills, and to Level II to be the lead instructor for any "live fire training, and above or below grade technical rescue practical training". Logically, fire instructors must also be certified in each of the respective disciplines that they are required to teach.

As seen in Table 16, OFD's training staff has a diverse background creating the necessary overlap in certifications needed to deliver all of the department's required training programs. However, not all dedicated Training Officers hold NFPA 1041 Instructor Level II. It is recommended that NFPA 1041 Level II certification be provided to all Training Division staff to ensure all are qualified for the lead instructor role. This certification is especially important for any Training Officer overseeing the technical rescue disciplines (rope and confined space) so that they can run independent training sessions with their respective OSTIs. It is also recommended that all Training Officers obtain NFPA 1021 Level I and NFPA 1521 certification as part of their logical career progression, and so that they can assist with the company officer certification process as needed.

Table 16: Existing Training Division Staff NFPA Pro-Qual Certifications

Position	NFPA Pro-Qual Standard Certifications
Chief Training Officer	NFPA 1001 (Firefighter II) NFPA 1002 (Apparatus Equipped with Fire Pump) NFPA 1021 (Fire Officer IV) NFPA 1035 (Fire and Life Safety Educator) NFPA 1041 (Fire and Emergency Services Instructor, Level II) NFPA 1072 (Hazmat Operations) NFPA 1521 (ISO)
Assistant Chief Training Officer	NFPA 1001 (Firefighter II) NFPA 1002 (Apparatus Equipped with Fire Pump) NFPA 1006 (Ice Technician) NFPA 1006 (Surface Water Technician)

Position	NFPA Pro-Qual Standard Certifications
	NFPA 1006 (Swift Water Technician) NFPA 1006 (Confined Space Technician) NFPA 1006 (Rope Rescue Technician) NFPA 1021 (Fire Officer III) NFPA 1041 (Fire Instructor, Level II) NFPA 1072 (Hazmat Operations) NFPA 1521 (ISO)
Training Officer 1	NFPA 1001 (Firefighter II) NFPA 1002 (Apparatus Equipped with Fire Pump) NFPA 1072 (Hazmat Technician)
Training Officer 2	NFPA 1001 (Firefighter II) NFPA 1041 (Fire Instructor, Level 2) NFPA 1021 (Fire Officer, Level 1) NFPA 1006 (Ice Operations) NFPA 1006 (Confined Space Operations) NFPA 1006 (Rope Rescue Technician) NFPA 1072 (Hazmat Operations) NFPA 1035 (Fire and Life Safety Educator) NFPA 1035 (Public Information Officer) NFPA 1521 (Incident Safety Officer)
Training Officer 3	NFPA 1001 (Firefighter II) NFPA 1002 (Apparatus Equipped with Fire Pump) NFPA 1041 (Fire Instructor, Level 2) NFPA 1021 (Fire Officer, Level 1) NFPA 1006 (Ice Technician) NFPA 1006 (Surface Water Technician) NFPA 1006 (Confined Space Technician) NFPA 1006 (Vehicle Rescue Technician) NFPA 1072 (Hazmat Technician) NFPA 1521 (Incident Safety Officer) NFPA 1035 (Public Information Officer)
On Shift Training Instructors (34 total)	Specifics discussed in the OSTI section

Given the implications of O. Reg.343/22, OFD should continue to prioritize the professional development of all training staff to build redundant capacity, especially as it relates to the required NFPA 1041 certifications, and core officer qualifications such as the NFPA 1021 and 1521 programs.

8.2.2 Chief Training Officer

The Chief Training Officer (CTO) reports directly to the Deputy Fire Chief of Training and is responsible for the development and delivery of the department's firefighter training programs. In addition, the RTC partnership between the Oakville Fire Department and the OFM imposes added duties on the CTO who must also fulfill the role of "RTC administrator". As the department's "RTC administrator" the CTO is required to work with the OFM as the primary point of communications needed for requesting classes, student enrollment, and course specific instructions.

As per the Collective Agreement, the CTO's duties are to be performed over a 40-hour work week, scheduled through five consecutive 8-hour days, Monday to Friday. A summary of the responsibilities associated with this position has been broken into two sections, with the first capturing the normal duties of the CTO and the second detailing the additional work required as the RTC Administrator.

8.2.2.1 CTO Responsibilities

- Manages the activities of assigned staff including staff training, assigning, and reviewing assignments and daily workflow and evaluates performance;
- Manages employee relations issues including conducting meetings with employees and completing proper documentation;
- Responsible for all phases (development, coordinating, delivering, and monitoring) of employee training and certification, including documentation and correspondence related to training activities, test results, and status of employee qualifications;
- Conducts tests of members of the Department and reports to the Fire Chief and Deputy Fire Chief's on the results;
- Maintains, completes records by utilizing the departments Learning Management System (Vector Solutions) for all training conducted including personnel training records, apparatus and equipment used and prepare reports on activities;

- Prepares estimates, coordinates, and compiles annual budget recommendations for the Training Division and submits for Deputy approval;
- Responsible for preparing business case documentation and recommendations for all new training program initiatives, including costs associated, scheduling and implementation processes;
- Responsible for condition of the Training Campus and Regional Training Center daily activities;
- Responsible for all phases of purchasing assets and supplies as identified by the Fire Chief and/or Deputy Chief. Handles materials and coordinates and supervises shipping and receiving functions;
- Maintains a complete inventory of equipment, apparatus, etc., assigned to the division of training;
- Maintains complete records of equipment and apparatus serviced and administered by the division;
- Develops, maintains, and updates lessons plans, safety plans, JPR checklists, training manuals, training syllabus, and station libraries to improve the delivery of training to Fire Department personnel;
- Develops training aids and keeps abreast of changing local conditions, technological changes in fire prevention, fire administration and firefighting operations;
- Reports to the Deputy Chief on results and assessments pertaining to recruit and in-service training;
- Visits fire stations and attends emergencies to ascertain training quality and assurance that emergencies are being handled in accordance with training given and fire department standard operating procedures;
- Conducts lectures, makes public presentations;
- Responsible for CPSE department accreditation processes relating to the training division as delegated by the Fire Chief and/or Deputy Fire Chief of Training; and
- Perform other duties as assigned.

8.2.2.2 RTC Administrator Responsibilities

- Create, change or cancel classes through the use of approved OFM forms;
- Serve as a dedicated contact person between Oakville's RTC and the OFM;
- Receive applications from students at outside Fire Departments interested in attending courses at Oakville's RTC;

- Communicate directly with all students enrolled in Oakville's RTC to provide class and facility specific information; and
- Attend the first day of class either in person or through a delegated representative to present all necessary facility information to RTC students.

As seen in the above job description, the CTO has many responsibilities related to both the successful implementation of OFD's internal training programs and the routine administration of the department's RTC. When combined, these duties create a great deal of administrative work for the CTO position, a problem exacerbated by the limited support available through the 0.5 FTE administrative staff role currently assigned to the division. Converting this existing shared administrative position to two 1.0 FTE roles with one supporting the Training Division and the other Fire Prevention would help both divisions. In the case of Training Division, this extra help would provide the CTO more time to focus on the development and oversight of training initiatives. The administrative needs of the Fire Prevention Division are discussed in Section 7.2.4.

Recommendation #8: That as part of the reorganization of the Administrative Support Team the OFD convert the 0.5 FTE Training Division administrative position (currently shared with Fire Prevention) to an FTE administrative role dedicated to supporting Training Division and RTC duties.

8.2.3 Assistant Chief Training Officer

The Assistant Chief Training Officer (ACTO) reports directly to the CTO and is responsible for assuming all supervisory duties in the CTO's absence. Given the numerous responsibilities of the CTO, the ACTO has an important supporting leadership role within the Division and is responsible for assisting with program delivery and divisional supervision as directed by the CTO.

As per the Collective Agreement, the ACTO normally works four 10-hour shifts on a Tuesday to Friday schedule, except when working as the acting CTO, during which time the ACTO adopts a Monday to Friday schedule.

8.2.4 Training Officer

The OFD has three dedicated TO that all report to the CTO. Similar to the ACTO, this position is required to work Tuesday to Friday on four 10-hour shifts. Training Officers are primarily responsible for the delivery of the department's career and in-service

training programs. Each training officer also oversees one of the department's specialized rescue disciplines and associated OSTIs, which are divided into technical rescue skills (rope and confined space), water rescue skills (swift, surface and ice) and hazardous materials response.

8.2.4.1 Training Officer Responsibilities

- Conduct Fire training programs to establish competence for specific NFPA standards, required certifications, and educational programs.
- Conducts training in various subject areas for officer development.
- Participate in course delivery for the Oakville RTC.
- Develop, and deliver training programs to meet legislative, municipal and industry standards that result in the successful preparation of employees' delivery of emergency services.
- Develop lesson plans, skill sheets and produce training resources to meet the current and predicted training requirements.
- Assist in the training of on-duty shift instructors and coordinate the assigned portfolio including any number of disciplines and specialties as assigned.
- Keep informed of new and emerging changes in the field of fire department training education, changing local conditions and technological changes in firefighting operations.
- Monitor and evaluate policies, procedures, techniques, equipment and recommend solutions as required.
- Possess a thorough operational knowledge of all types of apparatus and equipment owned and operated by the Fire Department.
- Assist in the development and/or assessment of specifications for various firefighting equipment and apparatus.
- Assess staff performance by upholding professional competency and certification.
- Conduct theoretical and practical knowledge exams as required by the Chief of Training.
- Maintain current, accurate and complete records of conducted training. Analyze and gather training data for reports as needed.

8.2.5 On Shift Training Instructors

This system of using on-duty firefighters as supporting instructors has a long history of success in Ontario and has been widely accepted as an industry best practice, especially when used for specialized programs such as:

- Fire ground and suppression training;
- Auto extrication;
- Rope rescue;
- Confined space rescue;
- Trench rescue;
- Hazardous materials response;
- Ice/water rescue;
- Driver program; and
- Medical based training programs.

This model supports professional development, succession planning, and allows firefighters to share their knowledge of specific emergency response procedures. As on-duty firefighters, the On-Shift Training Instructors (OSTIs) work on the same 24-hour schedule and platoon that they are training, providing ample opportunity for the delivery of educational programs.

Following recommendations in the 2016 MFP, the OFD has re-adopted an OSTIs model, which is governed by a Memorandum of Understanding (MOU) attached to the 2018 to 2022 Collective Agreement. Through this MOU, firefighters assigned to suppression divisions may volunteer to instruct specialized training programs to their respective platoons. Additionally, SOP 3-10 On Shift Training Instructors, requires new OSTIs to achieve NFPA 1041 Fire Instructor certification in addition to completing an internal one-day training program. OSTI's must commit to three years in this position, and must subsequently reapply at the end of each term. Through the bargaining process in 2022, the MOU will be updated to ensure that any continuous improvements or program alterations are incorporated to ensure departmental success.

In 2021 the department certified all OSTI's to the NFPA Instructor Level I certification, which O. Reg.343/22 requires as a minimum qualification for all fire services instructors. Following the trend noted in Table 17, OFD's OSTIs are well certified in core firefighting

skills, but still need technician level certification in many of the specialized rescue disciplines; further details found in the specialized rescue section.

Table 17: Existing Training Division Staff NFPA Pro-Qual Certifications as of August 2023

NFPA Pro-Qual Standard Certifications Position	Number of Certified OSTI
NFPA 1001 (Firefighter II)	34
NFPA 1002 (Apparatus Equipped with Fire Pump)	34
NFPA 1021 (Fire Officer I)	10
NFPA 1021 (Fire Officer II)	3
NFPA 1041 (Fire and Emergency Services Instructor, Level I)	34
NFPA 1041 (Fire and Emergency Services Instructor, Level II)	0
NFPA 1521 (Incident Safety Officer)	2
NFPA 1006 Ice-Water Rescue (Operations)	34
NFPA 1006 Ice-Water Rescue (Technician)	24
NFPA 1006 Surface Water Rescue (Operations)	22
NFPA 1006 Surface Water Rescue (Technician)	22
NFPA 1006 Swiftwater (Operations)	9
NFPA 1006 Swiftwater (Technician)	9
NFPA 1006 Rope Rescue (Operations)	14
NFPA 1006 Rope Rescue (Technician)	5
NFPA 1006 Confined Space (Operations)	0
NFPA 1006 Confined Space (Technician)	0
NFPA 1072 (Hazmat Operations)	34
NFPA 1072 (Hazmat Mission Specific)	41
NFPA 1072 (Hazmat Technician)	8
NFPA 1521 (Incident Safety Officer)	2

It must be recognized that this training model requires a significant amount of support from the dedicated Training Division staff. This includes facilitating the required O. Reg. 343/22 certification and recertification courses for existing OSTIs, and any firefighters seeking to become an OSTI. Dedicated Training Division staff are also required to facilitate ongoing monitoring and evaluation of the programs being provided by the OSTIs to ensure consistency within the four-platoon system, and at times may also be required to co-facilitate or facilitate specific specialized rescue training programs. For these reasons, the OSTI program must be seen as a compliment to dedicated training staff and not as a replacement. The work needed to track and coordinate OSTI delivered training is another reason this report recommends the expansion of the division's administrative role from a shared position to one FTE for both training and prevention which is a total increase of 1.0 FTE.

8.3 Comprehensive Annual Training Plan

Comprehensive annual training plans continue to be used by fire departments as a best practice means to achieve and sustain the skills and competencies required to provide the Council approved service levels. Use of annual training plans is reinforced by Section 21 Guidance Note 7-3: Training Plans, and NFPA 1500 – Fire Department Occupational Health and Safety Programs. In addition, comprehensive annual training plans are used to address the employer's responsibilities as defined by the Occupational Health and Safety Act, including all Section 21 Guidance Notes, and will be an essential tool for achieving O. Reg.343/22 compliance.

Such plans should include the following core functions:

- Identification of training needs in relation to services provided;
- Coordination/scheduling of theoretical and practical training;
- Monitoring and evaluation in relation to outcomes achieved;
- Ongoing evaluation in relation to industry best practices and legislative requirements;
- Oversight of program objectives and records management; and
- Ongoing assessment of program delivery for efficiency and effectiveness.

OFD has two related and complementary training plans; the first projecting the required certification courses needed for O. Reg.343/22 compliance, and the second which

guides a five-year maintenance program to ensure staff proficiency. As noted in Table 16 and Table 17, OFD already holds most of the needed core firefighting certifications but will need to train many responders to various NFPA 1006 standards to meet the Province's 2028 deadline. To meet this regulatory requirement, the department is planning to run the following certification courses:

- NFPA 1006 Rope Rescue Technician – Certification expected in 2023;
- NFPA 1072 Hazardous Materials Technician – Certification expected in 2024;
- NFPA 1006 Confined Space Technician – Certification expected in 2025; and
- NFPA 1006 Swiftwater Technician – Certification expected in 2025.

As noted above, maintenance skills are covered in a five-year training plan that spans from 2022 to 2026. This plan identifies 10 NFPA Pro-Qual standards that are used to drive the department's training regiment, all of which are based on the identified services outlined in the municipality's Establishing and Regulating By-law. Allocated time is provided for each training discipline throughout the year with the expectation that crews rotate through the plans prescribed Job Performance Requirements (JPRs). For example, it is expected that appropriate OFD staff will conduct Hazardous Materials training for at least five days every April and will focus on "monitoring and sampling" skills one year (2022), and on "emergency decontamination" during the following year. Some core skills such as donning and doffing chemical protection equipment are performed annually.

Together OFD's multi year plans exceed the best practice standard of using annual training plans and will play an important role in maintaining the multitude of skills required for the department's various specialized rescue services. Additionally, this plan usefully references each of the required training components by the identified JPRs listed in their respective NFPA Pro-Qual standard.

8.4 Specialized Rescue Training Programs

The following section will examine OFD's specialized rescue and related training programs in detail. It is important to first understand the different specialized services and levels of training that fire departments may offer, which in Ontario is a decision made by municipal councils and stipulated through their respective Establishing and Regulating By-laws.

The NFPA provides recommended performance standards for a wide variety of potential incidents spanning everything from hazardous materials response to mine and tunnel rescue specialists. Given the vast number of potential certifications it is unlikely any city would have personnel certified in every discipline. Instead, municipalities choose which specializations are needed for their jurisdictions, with the most common being, rope, confined space, hazardous materials and water rescue related services.

In addition to selecting the appropriate rescue services for their community, councils must also choose the appropriate level of training and response. In general, there are three different levels of training for each discipline which are described in NFPA 1670 Standard on Operations and Training for Technical Search and Rescue Incidents as:

- Awareness Level – Reflecting the minimum capability of organizations and allows first responders to recognize a hazard before calling for more specialized rescuers;
- Operations Level – Reflecting the capability of organizations to respond, use equipment, and apply techniques to support and perform a technical rescue; and
- Technician Level – Often seen as the highest level of training, allows organizations to not only provide the Operational Level services but also to coordinate, perform, and supervise a technical rescue.

8.4.1 Overview of Specialized Rescue Services

Technician level teams require a substantial commitment to provide both the resources and specialized training needed to safely deliver these services on a consistent basis, 24-hours a day, seven days a week, 365 days of the year. The implementation of O. Reg.343/22 has only increased the level of commitment required for the delivery of these services as each member must not only be proficient in these skills, but must also provide proof of IFSAC or ProBoard certification. Given the resource implications linked to the identified service levels, it is important that a department's specialized rescue services are approved by Council and align with known community risks. To provide some context on OFD's historic use of specialized rescue services, a detailed breakdown of departmental data from 2016 to 2021 is included in Table 18 below.

Table 18: Historical Specialized Rescue Incidents (January 1, 2016, to December31, 2021)

Response Type	Number of Calls
Water Ice/Water Rescue	12
Hazardous Materials Response[35]	34
Rope Rescue (High and Low angle)	30
Vehicle (Auto) Extrication	65
Vehicle Collisions	3,134

Source: OFD, Emergency Response Data 2016 to 2021.

Oakville's most recent Establishing and Regulating By-Law was passed in 2019 and offered Hazardous Materials Response services at a technician level, but provided for water rescue, rope and confined space services at the operations level. In 2021 an amendment to this By-law increased all specialized rescue services to the technician level so that OFD is now committed to providing the following six technician level programs:

- Hazardous Materials Response;
- Confined Space Rescue;
- Rope Rescue (high angle and low angle);
- Ice Water Rescue;
- Surface Water Rescue; and
- Swiftwater Rescue.

These six specialized technician level programs are coordinated through a teams-based model, where specific stations are designated for each type of response. This system allows for cost effective specializations that prioritizes the certification and training of personnel assigned to these halls and subsequent teams. There are also benefits related to equipment storage and dispatch, as the specialized resources needed for each response type are also placed in these designated fire halls. Further details on each of OFD specialized services can be found in the sub-sections below.

[35] Spill-toxic chemical, suspicious substance, bomb/explosive removal/standby.

OFD provides trench and structural collapse rescue services at the awareness level. Stakeholder discussions indicate that the department will likely expand its trench rescue capabilities to at least the operations level in the near future.

In the event the OFD needs other specialized rescue services not covered in the list above, or is challenged by the scale of an incident, the department may request assistance through the PEOC.

Lastly, a large percentage of all OFD's rescue calls are related to vehicle collisions (93%), any one of which may require specialized extrication tools and training. In years past, vehicle extrication services were considered a specialized component of firefighting, and while this continues to be true in some sense, these services are quickly becoming an integral part of the firefighting profession. This view is supported by O. Reg.343/22 which does not require specialized certification for auto extrication, but accepts NFPA 1001 Standard for Fire Fighter Professional Qualifications Level II to be sufficient training for the provision of this service. However, given the importance of this discipline, expanded details of OFD's auto extrication response and training program will be discussed in Section 8.4.1.3.

8.4.1.1 Hazardous Materials Response

The department has a long history of offering hazardous materials response services, which given the jurisdictions transport and industrial risks is logically provided at the technician level. This specialized team is based out of Stations 1 and 8, and is supported by a dedicated vehicle, HZ213, that carries the necessary CPC and decontamination equipment needed to provide technician level service capabilities. Team operations are guided by SOP 10-36 Hazmat Procedure and SOP 10-10 Decontamination Procedures, although both were written in 2015 when the department was operations level qualified and will need to be updated to reflect the City's commitment to technician level service. Future updates to SOP 10-10 should also include procedures for cold weather decontamination as this is an especially important skill needed by Canadian hazardous materials teams.

OFD's commitment to a technician level team provides an important service to the municipality. While significant hazardous materials events are fortunately rare, each call presents the potential to significantly impact the larger community. As noted above, the department is in the process of training personnel to hazardous materials response

technician level and expected to have the necessary members certified by the end of 2024.

8.4.1.2 Ice-Water Rescue

Ice-water rescue services have been the subject of much discussion within the fire service as a result of a May 2017 Coroner's inquest into the death of two firefighters during training exercises. This inquest recommended that all ice/cold swiftwater rescue services training be put in abeyance until such time as the recommendations of the jury were addressed. The findings of the inquest highlight the need for stringent training requirements for firefighters to facilitate any type of rescue where water or ice is present. Information provided to fire departments across the province by the OFM through Communique 2017-06, dated October 10, 2017, which encouraged municipalities to assess their delivery of these types of specialized rescue services and specifically their respective Establishing and Regulating By-law. The presence of these elements identifies conditions that warrant very careful consideration of the services provided by any fire department.

OFD's commitment to technician level services related to ice, surface and swiftwater rescue will provide a benefit to its residents but must be undertaken with the most stringent precautions. In addition to the aforementioned Coroner's inquest, the tragic drowning of a firefighter on the St. Lawrence River provides a recent reminder of the hazards associated with this specialized rescue discipline. Adherence to O. Reg.343/22 training requirements are an important first step in providing safe and effective water rescue services, but must be supported by a strong safety culture built around effective SOPs and operational practice. This level of caution will become increasingly important as OFD continues with its plans to offer technician level swiftwater services, which is arguably the most hazardous version of the water rescue disciplines.

In 2021, OFD trained approximately 120 suppression staff at Stations 1, 3, 5 and 7 as technician level responders certified in both the NFPA 1006 Surface and Ice Water rescue disciplines. Team operations are driven by SOP 10-45 Ice/Water Rescue and the OFD Ice/Water Training Manual, both written in 2022. This recent update does well to reflect the department's new surface and ice water technician level training and importantly restricts surface rescue to a "shore based" response for the time being. Future revisions to this document should include additional details on the expected

standards for equipment maintenance including a defined schedule for inspections and cleaning.

8.4.1.3 Rope and Confined Space Rescue

Similar to the status of the Swiftwater Rescue Program mentioned above, OFD has committed to providing technician level rope and confined space rescue programs as part of the 2021 E&R By-Law amendment. Technician level certification programs for rope rescue are ongoing and expected to be completed by the end of 2023. Similar confined space programs are expected to be completed in 2025.

Current rope rescue calls are guided by SOP 10-9 Rope Rescue Operations, updated in 2020 to reflect the department's operations level capabilities. Similarly, SOP 10-35 Confined-space Search and Rescue, written in 2020, provides overall direction for these types of events. Again, the department is fortunate to have a robust training facility with the specialized training props needed for the certification and practice of these programs.

8.4.1.4 Auto (Vehicle) Extrication

Vehicle extrication has become a core service offered by municipal fire departments and is especially important for the OFD whose response area includes the 403, the QEW, and 407. The high number of historic vehicle collision and vehicle extrication incidents from 2016 to 2021 support the need for OFD to deliver these specialized services. In our experience, vehicle extrication incidents are often under-represented in the way call data is recorded, and many more incidents occur that get identified as vehicle collision calls. We have presented both call types within the table above, as any vehicle collision incident has the potential to require extrication services.

OFD has two dedicated apparatus units, and all suppression staff have the necessary NFPA 1001 Level II certification needed by O. Reg. 343/22 to provide vehicle extrication services. More advanced extrication Job Performance Requirements are outlined in NFPA 1006, which requires firefighters to train for vehicles on their roof, side or otherwise challenged by complicated entanglements. O. Reg.343/22 does not require that departments certify their personnel to the NFPA 1006 standard, but it is an important part of industry best practice that municipal departments prepare for these more complicated incidents. Again, OFD is fortunate to have a training facility with an

auto extrication pit to practice these more challenging extrication evolutions and routinely uses heavy machinery from a neighbouring municipal yard to create realistic auto extrication scenarios.

On-scene operations are guided by SOP 10-46 Auto Extrication, written in 2019. This recent document includes important reference to hybrid and electric vehicles whose growing popularity continues to challenge traditional extrication methods. While OFD appears to be a leader in this field, it is important the department continue to focus and train for electric and alternative fueled vehicle emergencies, as the fire service as a whole continues to learn more about these developing technologies.

8.4.2 Specialized Services Certification Status

As seen in Table 19, Oakville will have to certify dozens of staff members to the technician level in multiple NFPA Pro-Qual Certifications to meet O. Reg. 343/22 compliance for all the provided services listed in its 2021 By-law update Based on the stipulated deadlines in O. Reg. 343/22, OFD will need to certify 56 hazardous materials technicians before July 1 2026, and 57 rope rescue technicians, 64 confined space technicians, and 111 swiftwater technicians before July 1 2028.

This significant task will require the dedicated effort of most of the department's training staff over the next few years, additional details in Section 7.11. Fortunately, OFD has both the training facilities and staff experience to provide these necessary certifications, as proven through their delivery of the Ice Water, Surface Water and Hazmat Mission Specific courses run in 2021 and 2022. Based on the success of these past training initiatives and the aforementioned certification training plan, it is reasonable to presume that the OFD will have the required complement of hazardous materials technicians by the legislated 2026 deadline and the necessary rope, confined space, and swiftwater technicians by the 2028 deadline.

Table 19: OFD Specialized Services and Current Certification Status as of August 2023

Program	Service Level	Dedicated Stations	Responding Units[36]	Full Staffing	Target # of Staff Needing Certification (all shifts)	# of Staff Already Certified
Rope	Technician	5/7	P251	5	64	7
			R254	3		
			P271	5		
			R274	3		
Confined Space	Technician	1/4/5/7	HZ213	Not Applicable	64	0
			P251	5		
			R254	3		
			P271	5		
			R274	3		
Ice Water Rescue	Technician	1/3/5/7	P231	5	120	123
			L232	4		
			P251	5		
			R254	3		
			P271	5		
			R274	3		
			P211	5		
Surface Water Rescue	Technician	1/3/5/7	P231	5	120	117
			L232	4		
			P251	5		
			R254	3		
			P271	5		
			R274	3		
			P211	5		
Swiftwater Rescue	Technician	1/3/5/7	P231	5	120	9
			L232	4		
			P251	5		
			R254	3		
			P271	5		
			R274	3		
			P211	5		
Hazardous Materials Response	Technician	1/8	HZ213	1	56	0[37]
			P281	5		
			R274	3		

[36] Not including command units.

[37] In 2022 OFD certified 33 suppression staff members to the 1072 Mission Specific Level, a unique prerequisite needed for the NFPA 1072 Hazmat Technician course.

8.5 Company Officer Training

Municipalities are required to ensure that enough supervisors (officers) are trained to oversee the workforce. The Occupational Health and Safety Act, Part III, Duties of Employers and Other persons, Section 12, subsection (2) states that: "Without limiting the strict duty imposed by subsection (1), an employer shall, "(c) when appointing a supervisor, appoint a competent person".

As an employer, the Town is legislated by this section of the OHSA to ensure that all supervisors, which includes the role of incident commander, be competent.

The OHSA defines a "competent person" to mean a person who:

1. "is qualified because of knowledge, training and experience to organize the work and its performance;
2. is familiar with this Act and the regulations that apply to the work; and
3. has knowledge of any potential or actual danger to health or safety in the workplace".

Within the OFD, a supervisor would be defined as any designated Chief Officer such as the Fire Chief, Deputy Fire Chiefs, Platoon Chiefs and Chief Training Officer, and any designated Company Officer such as Captains, or Acting Captains. Industry best practices suggest that a company officer training program should be an ongoing element of a broader officer development program. This strategy further supports succession planning and career development for future senior officers.

Further to these stipulations in the OHSA, O. Reg. 343/22 requires OFD's company officers to be certified to both the NFPA 1021: Standard for Fire Officers Level I, and NFPA 1521: Incident Safety Officer Standard. Additionally, any personnel interested in an officer position must also be NFPA 1041 – Fire Instructor Level I certified, as this is a necessary prerequisite for the NFPA 1021 course. As noted in Table 19, 74% of those acting in an Officer position (Acting Captains, Captains, Assistant Platoon Chiefs and Platoon Chiefs) already have their NFPA 1021 certification, and it is expected that a similar percentage will hold the required NFPA 1521 certification after this fall's scheduled RTC courses.

Beyond achieving relevant NFPA certification, the OFD also requires company officers to undergo BlueCard Incident Command training with the potential to include Effective Command ™ certification courses in the future.

8.6 Incident Command Training

Incident command training is considered a core element of company officer training. Ontario Fire Service Section 21 Advisory Committee Fire Fighters Guidance Note #2-1 – Incident Command reflects the importance of this position in relation to the outcome of emergency scene operations, and the skills needed by Officers to serve as an Incident Commander.[38] Guidance Note #2-1 states that employers should train all personnel in incident command, and requires the use of a command system often referred to as an Incident Management System (IMS) during all on-scene calls.

Incident Management Systems are an industry best practice designed to positively influence the outcome of an emergency scene operation and the health and safety of firefighters.

Incident Management should be established by the first arriving officer and be sustained until the emergency is mitigated. The Incident Commander (IC) is responsible for all aspects of managing the emergency incident including developing an "Incident Action Plan" and supervising all operations on scene. This includes:

- Establish immediate priorities, especially the safety of responders, other emergency workers, bystanders, and people involved in the incident;
- Stabilize the incident by ensuring life safety and managing resources efficiently and cost effectively;
- Determine incident objectives and strategies to achieve the objectives;
- Establish and monitor incident organization;
- Approve the implementation of the written or oral Incident Action Plan; and
- Ensure adequate health and safety measures are in place.

[38] Guidance notes to protect the health and safety of firefighters are developed by the Ontario Fire Service Section 21 Advisory Committee and distributed by the Ministry of Labour, Training, and Skills Development.

OFD's SOP 10-11 Incident Management System (revised January 12, 2022) together with the department's Incident Management System Training Manual (2022) reinforces the above listed principles of incident command. Adherence to these best practices is supported by OFD's utilization of the Blue Card Incident Command Program™ as the basis of its command training.

The Blue Card Program is well established and is considered to be a leader in this field. All Captains receive Blue Card awareness training, and Platoon Chiefs are certified to the command level which includes a 40 to 50-hour online program with multiple scenarios delivered as part of a problem-based learning methodology. Following the online component students are subject to an in-person evaluation, where they are tested as the Incident Commander at simulated structure fires.

In addition to the Blue Card program, the OFD is considering enrolling its incident commanders into Effective Command™ training. This emerging program, endorsed by the Ontario Association of Fire Chiefs, intents to build upon the standardized terminology and command system established in Blue Card, and further expand into decision making simulations with real time consequences of decisions made. This program has the potential to further advance OFD's Company Officer development and promotional process.

8.7 Training Facilities – Overview

As noted in the 2016 FMP, OFD has a well-developed training facility that should be a source of pride for the department. Even after 22 years, this facility's training ground continues to meet many of the department's needs. Both fire based and specialized rescue training props are well developed and capable of simulating the realistic training scenarios needed to develop effective first responders. The field training portion of this facility is especially strong and will serve the department well as it continues to offer many of the specialized training courses required by O. Reg. 343/22.

The training facility itself sits on six-acres, located beside Station #5 and includes the following.

8.7.1 Main Training Building

Administrative centre of Training Campus which holds offices for Training Division staff, a 20-person classroom with divider, kitchen facility, single-bay apparatus storage, male and female washrooms with change area and shower facilities. Due to limited classroom space, a 20-person portable has been added to support this main training building. Additional details in the following section.

8.7.2 Live Fire and Rope Rescue Training Building

- Five-storey concrete structure used to simulate both multi-storey and residential structure fires. The structure contains tile lined rooms on each floor designed for burning Class A materials in accordance with the NFPA 1403 Standard on Life Fire Training Evolutions.
- This structure can also be used for rope rescue training and the C-side (Charlie) of the building includes the necessary anchors, working ledge and 50-foot wall needed to practice many NFPA 1006 Rope Rescue skills.
- Nearby roof props allow firefighters to practice vertical ventilation techniques and roof entry from an aerial device.

8.7.3 Propane Class B Fire Training Area

Draeger 'System 64' was installed in 2014 and includes fire props capable of simulating vehicle fires, horizontal and vertical fire spread, and various tank fires.

8.7.4 Auto Extrication Pad

- Suitably large concrete pad with utility pole prop and jersey barriers that can be used to practice vehicle extrication techniques on scrap vehicles purchased from a local towing company.
- Vehicles are moved around the pad using heavy equipment provided by a nearby municipal service depot.

8.7.5 Hazmat Training Area

Contains multiple training props capable of simulating rail, road and pressure vessel incidents. Impressively, OFD's training facility includes a tanker car equipped with a propane vent prop and a box car, both situated on rails.

8.7.6 Confined Space Training Area

Contains a manhole, sewer pipe and confined-space tank props; all constructed above ground to facilitate ease of installation, safety and maintenance.

8.7.7 Firefighter Combat Challenge Tower and Course

Built to the exact “Firefighter Combat Challenge” standards, this mobile training prop is able to deploy a five-storey staircase topped with a working platform that can be used to train for North America’s premier firefighter fitness competition, or can otherwise be used for additional rope rescue training.

8.7.8 Storage Solutions

On site storage solutions, include a large Quonset Hut and several sea containers used to store necessary training equipment and supplies.

8.8 Training Facilities – Recommended Upgrades

Despite the facility's many strengths, there are some aspects of this site that have not kept up to the department’s growth or meet the standards expected in modern facilities. Classroom capacity, storage and washroom facilities are challenged to keep up with this site’s current commitments and will need to be upgraded in the coming years. Fortunately, the planned relocation of OFD’s Fire Prevention Division from their existing building on the OFD’s training campus to a new location has created an opportunity to renovate this existing structure to meet the department’s training needs.

As part of this planned renovation to the old FPO facility and during any subsequent training ground improvements, it is recommended that the following upgrades be prioritized.

8.8.1 Classroom Facilities

The existing classroom can hold 20 students or be divided into two smaller classrooms if needed. This facility works well for the delivery of single programs but is not capable of supporting multiple training initiatives at the same time since it quickly reaches capacity even when the classroom is divided. As noted above, OFD has placed a portable classroom on site, and has also started using space at the Queen Elizabeth Park and Community Centre when needed. Neither solution is ideal as the portable is only a

temporary fix, and the use of off-site facilities can challenge the delivery of many NFPA Pro-Qual fire courses that require students to alternate between classroom lectures and practical skill-based activities on the training ground. Moving between the training ground and off-site classroom can be both logistically inefficient and a hindrance to the learning process. The implementation of O. Reg. 343/22 and expected population growth suggest that OFD and similar departments will require more formalized NFPA training courses in the future, placing increasing demands on available classroom space. For all of these reasons, it is recommended that OFD increase the classroom capacity at its fire training site.

8.8.2 Washroom and Kitchen Facilities

The main training building also includes kitchen and washroom facilities. Constructed in 2001, the site's gendered facilities do not meet today's modern accessibility standards. Additionally, the existing washroom and kitchen facilities are too small to support any large training program, let alone multiple concurrent training initiatives. Future renovations to the training facility should prioritize the construction of inclusive washrooms that will need to be scaled to match the increased use of OFD's training centre and any classroom expansion. Lastly, an increased understanding of firefighter's toxic exposures has led to a greater call for firefighter decontamination after both real incidents and simulated fires used for training. A central part of these decontamination procedures include mandatory showers for all participants after training incidents. Consequently, any new washroom facility incorporated into a fire training centre should be built with a high shower to occupant ratio.

8.8.3 Storage Solutions

Storage is a common problem for fire service training centres due to the numerous training props and equipment needed to safely simulate various fire and specialized rescue scenarios. The more services offered by a community's Establishing and Regulating By-Law, the more equipment that is needed to provide, practice and train for those types of response; a requirement that has been significantly reinforced by Ontario's new certification legislation. OFD's previous FMP notes that storage capacity at this site was a challenge in 2016, and the problem has only grown with increased levels of service and regulatory requirements. As a temporary measure OFD employs several sea-containers for storage, a practice that has grown since first noted in the

2016 FMP. The long-term use of sea-containers increases the chance that expensive training equipment may be exposed to moisture or rodent infestation and can significantly shorten the expected lifespan of stored equipment.

8.8.4 Staff and Student Parking

The current site includes parking for staff and a few visitors, requiring students to park on the training ground. For a small course this would not be an issue, but again concurrent training programs may require dozens of students on ground, blocking access to the structures and props that need to be utilized during their respective training. Additionally, parking on the training ground risks unintentional damage to personal vehicles.

8.8.5 Apparatus Bay/Indoor Training

Currently, OFD's training facility has one apparatus bay that is used by on-duty crews visiting the site for in-service training sessions, and for vehicle storage needed in support of recruit or RTC training programs. Alternatively, this apparatus bay may be used to practice fire ground skills during inclement weather that increases the risk of injury on the training ground. It is recommended that future upgrades to the training site include more room for apparatus parking. This is an especially important requirement in Canada, where the water on fire trucks may freeze during the winter months without proper precautions. An expanded apparatus area also has the secondary benefit of providing a larger indoor space for training evolutions. This indoor space is an important part of any modern fire training ground as it allows year-round practice of essential skills. While firefighters respond to emergencies in even the worst of conditions, training in this weather would present an unreasonable health and safety risk. Many fire services have incorporated building facades into their training centre's apparatus bay as a clever way to provide a cost-effective multi-purpose space to support training evolutions or vehicle storage as needed.

Recommendation #9: That any future upgrades to the OFD's training facility prioritize increasing available classroom space, modernizing the washroom and kitchen facilities, providing permanent equipment storage solutions, parking, and an expanded apparatus bay that could also serve as an indoor training environment.

8.9 Live Fire Training

The purpose of live fire training is to provide realistic fire simulations under controlled conditions allowing for safe suppression training on a regular basis. Live fire training ensures that all suppression staff maintain skill sets and have sufficient exposure to the conditions that a firefighter may encounter in real life including simulated heat, humidity, restricted vision, and smoke conditions. This type of training also enhances the understanding of fire behaviour and smoke conditions in certain environments as they may relate to conditions such as "flashover."

The use of departmental training grounds is governed by Standard Operating Procedure 3-2; revised in August 2023, this document defines operational expectations and required health and safety practices for high hazard training evolutions. This recently revised document incorporates the best practices of NFPA 1403 with requirements from the Occupational Health and Safety Act to maximize firefighter safety through various fire and technical rescue-based scenarios.

OFD provides annual live fire training to suppression personnel every fall and ensures this training is scheduled as a priority on the five-year annual training plan. Training records from 2022 show that 79% of suppression personnel completed this live fire training program. These numbers are in-line with OFD's historical compliance rates which average between 80 to 90%. When looking at this completion data it is important to note that it is unrealistic to expect 100% of suppression staff to attend these annual drills. Due to the labour-intensive nature of live fire training, these sessions cannot easily be repeated and it is common to miss staff who may be away on vacation or who are unable to attend due to injury. Still, departments have an obligation to train as many first responders as possible in live fire training programs and must strive for reasonably high levels of compliance. In considering these limitations, the OFD's commitment to annual live fire exercises with an 80 to 90% compliance rate is commendable.

8.10 Inclusion, Diversity, Equity and Accessibility (IDEA)

The Town of Oakville, supported by a key corporate objective (Inclusion, Diversity, Equity, and Accessibility [IDEA]) embraces a culture that represents and responds to the Town's workforce and the community.

Traditionally the fire service, as an industry, has not attracted and retained people who represent the diversity of the communities they serve. This can be attributed to numerous factors over the years, however in today's environment, leaders of the fire service have recognized the need for the change and are making headway. The OFD utilizes a number of existing strategies to support IDEA through recruitment and training practices. To improve the recruiting equity, diversity and inclusion, OFD applies second language filters for percentage points in the Taleo screening software utilized by the corporation. The department has increased gender diversity from 3% female firefighters in 2016 to 13% female firefighters in 2023.

The Oakville Fire Department hosts Blaze Fire Academy at the Oakville Fire Training Campus, with the support and participation of all Halton Region Fire Departments. Blaze Fire Academy, founded in 2022, has a vision of a "Fire Service for All." The program was rebranded from Camp Molly (established to empower females to learn about a career in the fire services) to offer programs to under-represented groups who may wish to consider a fire service career. The ultimate goal of the Blaze Fire Academy is to attract diverse candidates to the fire service. In 2023 Oakville Fire Department hosted Blaze Academy 1 – Changing Careers Program (A hybrid camp aimed at attracting individual that would like to explore a career change) and Blaze Academy 2 – Young Women's Program. The department is proud of the successes of these programs. For example, one of the Changing Careers Program attendees in 2023 is part of the next OFD recruit class.

Ontario Fire Administration Inc. (OFAI) candidate testing continues to provide the preferred method for candidate testing for OFD as it aims for inclusivity and excellence in its recruitment process. OFAI supports equity, diversity and inclusion in the recruitment and hiring process and provides a cost containment measure for candidates. By prioritizing qualifications and skills over background and economics, OFD is not only promoting fairness but also tapping into a broader talent pool. Elevating the profile of fire services as a profession among youth is crucial for attracting passionate individuals who can contribute to OFD and safety of Oakville's communities.

To assist the department in continuing to expand and enhance IDEA initiatives, with the goal that all ranks and classifications in the OFD including representation of diverse individuals, it is recommended that OFD develop a formal IDEA program. The IDEA program framework should include consideration of such areas as the necessary training

to change the culture within the department, policies and procedures, facilities and equipment needs (with potential alterations), identification of career paths starting with outreach to the community as well as leadership development and promotions. The OFD has many successful IDEA initiatives underway, and will continue to be leaders in the industry through implementing a formal IDEA program.

Operational Recommendation #33: That OFD develop and implement a formal Inclusion, Diversity, Equity and Accessibility (IDEA) program.

8.11 Online Training, Compliance and Records Management

In the OFD the issues of e-learning, training compliance and records management seem to be inextricably linked. This is in part due to the OFD's 2014 adoption of Target Solutions®, a popular e-learning platform used by many of Ontario's municipal fire services due to its ability to serve as both a Learning Management System (LMS) and RMS. Target Solutions has since been rebranded as Vector Solutions but continues to offer the same e-Learning and recordkeeping functions.

OFD currently uses this system for the issuing of e-learning materials, the distribution of departmental lesson plans, and for the tracking of all in-person and virtual training items. The comprehensive training records stored on this system tracks everything from OFD's live fire program to the individual reading of online policies and everything in-between. A review of OFD's 2022 training records shows that the department provided 151 separate training initiatives that year to 239 suppression members, with the average firefighter completing 55 hours of self-directed or Captain led training. There was a significant variance in completion rates among the listed 151 different initiatives which spanned between 0.4 and 95%.

When looking at these numbers it is important to remember that given the size and variety of information covered in this dataset, it is unreasonable to expect high compliance rates for each training item. For example, the 0.4% quoted above reflects one firefighter's completion of a three-day "return to work program", a program that would uniquely apply to that individual and not all suppression personnel. Still, when looking at the larger picture, there were only nine programs issued in 2022 that had completion rates over 75%:

1. 2022 Live Fire Training Program – 78%
2. COVID Safety Plan and Telestaff Training Note – 95%
3. Cyber Security Awareness Training – 84%
4. Digital Vehicle Repeater System Training – 90%
5. IMS SOP Training Manual – 90%
6. MTO DZ Renewal Study Guide Resources – 87%
7. OFD IMS Manual Review – 75%
8. SOP 10-6 and Ice Water Training Manual Review – 88%
9. Training Note Review – MSA Carbon Monoxide Detector – 81%

This low completion rate combined with an average of only 55 hours of training per firefighter is less than would be expected given the size and complexity of OFD's suppression operations. Still, a thorough review of these training records suggests both strengths and weaknesses related to the department's record keeping and training compliance systems. For starters, the sheer number of individual records, including many with few dedicated participants, indicate that a wide variety of training programs are being tracked and recorded. While it is common for departments to diligently record larger training programs, it can be easy to oversee the paperwork required to track small or impromptu training initiatives, which are equally important to the members involved. It is also important to note that OFD's live fire program is included in the listed high compliance rate items, indicating the department's commitment to a quality over quantity approach; a training methodology supported by evidence that favours fewer high-fidelity simulations over numerous text-based reading assignments.

However, the low compliance rate attached to many of the department's issued training items cannot be ignored. For one, this data suggests that the department as a whole is not following SOP 3-9 Target Solutions. Published in 2014, this SOP outlines the procedures for the issuing and completion of "scheduled training activities" expected to be completed during "working hours" and overseen by the "Company Officers and or Platoon Chief". Of the nine "high compliance" topics listed above, only one (the aforementioned live fire program) appears to be delivered by training division staff. The remaining eight are presumably training notices, or Captain led in station exercises facilitated by the department's LMS. Further analysis of the 2022 training report shows another 11 issued activities that have completion rates between 50% and 74%, including one titled "Scott X3 Pro Core Drill" (51%), a skill likely related to the use of the

department's Self-Contained Breathing Apparatus, an important topic that one would expect to have a high completion rate. Beyond failing to comply with OFD SOP 3-9, this trend is also in opposition to the Ministry of Labour's Section 21 Guidance note # 7-3, which outlines best practices for keeping "complete and accurate" training records. Further discussion on these findings is included in Section 7.9.

8.12 Proposed Division Staff Resource Strategy

A thorough review of OFD's Training Division, has revealed many strengths related to the department's position as an RTC, O. Reg. 343/22 compliance, live fire training program and ongoing work toward special teams' certification and development at the technician level. This work has also revealed issues related to low completion rates of the smaller but equally important departmental wide training programs needed for the maintenance of core skills and change communications.

Taken together and combined with the observations made throughout the above training section, this data suggests two things; the first being that the department benefits from a strong group of training instructors dedicated to high-value training programs, including RTC programs, special teams' development, live fire evolutions, and O. Reg. 343/22 compliance; and the second implication being that staff focus on this first priority leaves little room for the oversight of "core" skills. This view is supported by the fact that noted strengths and weaknesses in this analysis are divided along clear lines that separate Training Division led programs from the self-directed maintenance initiatives.

To address this identified deficiency, it is our recommendation that OFD immediately increase its training staff by one FTE position to oversee routine professional development and the core skills maintenance of suppression staff. This new position will enable the department to bring these core competencies to the same standard of development that is apparent in the specialized rescue programs. It is equally important that the department revisit its tracking and compliance systems to ensure that any assigned training is properly recorded. This process may be as simple as providing managerial oversight to the existing Target Solutions SOP (3-9), or might include an entirely new system based on growing training staff resources.

Additionally, it is critical that any proposed staff resource strategy also accounts for projected growth, departmental demographics, and the amplified workload associated with increasing legislative requirements. In considering that this FMP recommends the construction of two additional stations (Section 9.16), and that O. Reg. 343/22 has imposed significantly more rigid requirements for officer development and certification, we also suggest a second FTE position be added to OFD's Training Division in the near future. This additional position will be needed to maintain the department's firefighter to instructor ratio once the additional 40 staff members are hired for future Stations 10 and 11. Furthermore, it is recommended that this additional position could specialize in overseeing the department's company officer development program and the integration of the Effective Command ™ element into the department's existing IMS system. This secondary FTE position could be included in the planned FMP review at the five-year horizon.

Collectively, the above recommendations take into consideration the increased obligations O. Reg. 343/22 has placed on municipalities, the training resources needed to maintain specialized rescue teams at a technician level, the department's RTC commitments, and expected departmental growth over the coming years.

Recommendation #10: That OFD increase its training staff complement by one FTE position in the immediate term to oversee routine professional development and core skills maintenance of suppression staff, and that OFD consider the addition of a second FTE position in the mid-term horizon to maintain its instructor to firefighter ratio and to oversee the department's company officer program.

Operational Recommendation #34: That OFD revisit its training compliance and record keeping systems to ensure that assigned training is properly recorded as outlined by Section 21 Guidance Note #7-3 Training Plans.

8.13 Training Division Summary and Recommendations

This FMP provides an overview of OFD's Training Division as it relates to the new O. Reg. 343/22 – Firefighter Certification. In addition, this report examines many unique aspects of OFD's training facility, RTC status, annual training plan, and special rescue programs. In summary, OFD is fortunate to have a robust training facility, staffed

by a well-educated group of training professionals. The department also utilizes an annual training plan that meets or exceeds industry standards.

The department is well positioned to meet O. Reg. 343/22 compliance for core fire suppression skills but will need dedicated effort to meet its specialized rescue certification commitments, a challenging but not unachievable task. OFD's recent success in delivering technician level surface and ice water certification programs, combined with the five-year special teams training plan, suggests that all required certification training will be completed by 2025, providing a three-year contingency window ahead of the 2028 deadline.

The field portion of OFD's training facility continues to be a source of pride for the department and contains all the training props needed for the department's current specialized rescue programs. However, the classroom, washroom, kitchen, parking, and storage facilities have not kept pace with the department's growth and current RTC status. OFD already has plans to address this issue by renovating the Fire Prevention building once this division moves to their new site away from the OFD training campus. This initial step promises to address many of the listed issues, but it is possible that further expansion and upgrades will be needed. Consequently, OFD is encouraged to develop a long-term plan to address facility upgrades, taking into consideration both the facility's use for internal training programs and potential expansion of its RTC offerings.

An audit of training records and related files suggests that while the department's formal certification and career training programs are strong, completion rates for assigned professional development programs are low. A closer review of this trend indicates that this split is related to a training saturation, where existing resources are focused on providing the certification courses needed for the newly imposed regulatory requirements. In addition, the increase demands of O. Reg. 343/22, specifically as it relates to company officer development, combined with local population growth, are expected to further strain the capabilities of OFD's Training Division. To address these issues, it is our recommendation that the department increase its training staff, growing both the number of instructors and administrators needed to properly deliver and record individual training sessions.

Based on these observations of OFD's Training Division, the following recommendations are presented for consideration and approval.

8.13.1 Recommendations

Recommendation #8: That as part of the reorganization of the Administrative Support Team the OFD convert the 0.5 FTE Training Division administrative position (currently shared with Fire Prevention) to a FTE administrative role dedicated to supporting Training Division and RTC duties.

Recommendation #9: That any future upgrades to the OFD's training facility prioritize increasing available classroom space, modernizing the washroom and kitchen facilities, providing permanent equipment storage solutions, parking, and an expanded apparatus bay that could also serve as an indoor training environment.

Recommendation #10: That OFD increase its training staff complement by one FTE position in the immediate term to oversee routine professional development and core skills maintenance of suppression staff, and that OFD consider the addition of a second FTE position in the mid-term horizon to maintain its instructor to firefighter ratio and to oversee the department's company officer program.

8.13.2 Operational Recommendations

Operational Recommendation #31: That the OFD continue to provide NFPA Pro-Qual training courses through its established RTC, with ongoing review of the administrative and operational costs associated with outside student enrollment to adjust student fees accordingly.

Operational Recommendation #32: That the OFD continue to use in-house certification initiatives with the OFM's AS&E testing in addition to the more formal courses offered through the department's RTC.

Operational Recommendation #33: That OFD revisit its training compliance and record keeping systems to ensure that assigned training is properly recorded as outlined by Section 21 Guidance Note #7-3 Training Plans.

9.0 Fire Suppression Division

To comply with the Fire Protection and Prevention Act, 1997, the Town of Oakville is required to provide the necessary fire protection services based on the needs and circumstances of the local community. This includes deciding on the appropriate level of fire suppression and specialized rescue services to be provided. To assist in this decision-making process, O. Reg. 378/18 – Community Risk Assessments was developed, which requires the council to use their community risk assessment to make informed decisions about fire protection services, including the level of fire suppression services to be provided.

The delivery of fire suppression services is recognized by the OFM Comprehensive Fire Safety Effectiveness Model as the "Third Line of Defence". This model also recognizes that "due to a variety of influences, not all communities are capable of, or should consider delivering the same level of service"[39]. To assist Council in this decision-making process, the methodology presented within this section considers the "Risk Outcomes" identified by the companion Community Risk Assessment, the applicable PFSGs authored by the OFM, and current industry best practices as presented within the applicable National Fire Protection Association standards.

The Fire Department in the Town of Oakville is responsible for responding to fires, medical emergencies, hazardous material incidents, motor vehicle collisions, and technical rescues, such as high and low angle rope, swift water, surface water and ice rescue, auto extrication and confined space rescues. Currently, trench and structural collapse rescues are limited to the awareness level of training. Conducting technical rescues requires highly trained staff with a high level of competency. Recently, O. Reg. 343/22 has been implemented, which requires firefighters to be certified in each specialty discipline to varying levels. The level of certification will depend on Council's approval of funding and the fire department's ability to provide the service.

[39] Office of the Fire Marshal and Emergency Management, Public Fire Safety Guideline 04-01-12 Selecting Fire Suppression Capability.

9.1 Existing Fire Stations

Oakville Fire Department currently operates from nine fire stations located strategically throughout the Town of Oakville. This section of the Master Fire Plan provides an overview of the existing stations. This section of the FMP aligns with Council's Asset Management key objective, and aims to support the Town in making the best possible decisions regarding Town assets in a way that provides targeted levels of service and manages risk in a cost-effective manner throughout the entire asset life cycle.

The Town of Oakville started conducting Building Condition Assessments (BCA) of their fire stations in 2008 which identified repairs, maintenance, and future replacement time frames for building components with estimated costs based on dollars for the year the assessment was completed. Capital budgeting for repairs and maintenance of the building and components is ongoing with prioritization of repairs listed from desirable to urgent.

An accepted method among facility management professionals is to rate the condition of a facility utilizing a Facility Condition Index (FCI). The rating was first published by the National Association of Colleges and University Business Officers as a method to provide a benchmark to compare the condition of a facility. The benchmark takes into consideration the maintenance, repair, and replacement deficiencies of the facility based on a building condition assessment, versus the replacement value of the facility. This will create a percentage figure that will fit into established categories from Good (0 to 5%), Fair (5 to 10%), Poor (10 to 30%) and Critical (greater than 30%). Therefore, the lower the FCI rating the better condition the facility is considered. The Town of Oakville utilizes a similar condition assessment rating as part of their program for asset management with respect to facilities, where one represents very good condition, two represents good condition, three represents fair condition, four represents poor condition and five represents defective/very poor condition.

9.1.1 Fire Station 1

Fire Station 1 is located at 2535 Rebecca Street and the station was built in 1988. The station is a single-storey on grade style construction with two back in apparatus bays. The station also offers an office, study, kitchen/lounge area and a dormitory. A BCA was conducted in 2008 and the building was listed as in "Fair" condition.

Station 1 houses a pumper staffed with a minimum of four fighters and the Hazardous Material Response (Haz-Mat) truck, which is not staffed fulltime, however, if required a firefighter from the pumper will respond with the Hazmat truck along with the station pumper, with response support of other apparatus based on the location of the call and resources required.

9.1.2 Fire Station 2

Fire Station 2 is located at 2264 Cornwall Road and is a single storey on grade construction style building constructed in 1988 The station has one drive through bay and one back-in apparatus bay and is equipped with an office, study, kitchen/lounge area and a dormitory. A BCA was conducted in 2023 and listed the building as in "Fair" conditions. Station 2 houses a pumper crew that is staffed with a minimum of four firefighters. A reserve aerial is housed at Station 2.

9.1.3 Fire Station 3

Fire Station 3, located at 168 Kerr Street and was constructed in 2018. The station is a single storey on grade constructed building with four drive through apparatus bays. The station is a newly constructed modern day fire station built to a Leadership in Energy and Environmental Design (LEED) silver certification and offers three offices, a meeting room, kitchen, lounge area, dormitory, gym, and SCBA compressor room. Due to the young age of the building, a BCA had not been completed at the time of writing this report.

The station is staffed with a platoon chief, a pumper staffed with a minimum of four firefighters and an aerial staffed with a minimum of three firefighters. The station also houses the command vehicle as an unstaffed support vehicle.

Station 3 also houses the OFD museum (heritage room) which can double as an area to be utilized for public education tours.

9.1.4 Fire Station 4

Fire Station 4 is located at 2021 Sixth Line and was built in 1975. The station is a single storey on grade constructed building with one drive-through apparatus bay and one back-in apparatus bay. The station is equipped with an office, kitchen/lounge, and dormitory. A BCA was conducted in 2023 and listed the condition as “Fair”. The station is staffed with an aerial apparatus staffed with a minimum of four firefighters. The 2016 FMP had recommended the replacement of Station 4 and at that time the Town’s planning horizon was set for 2018/19. This time frame was adjusted corporately and currently the planned replacement of Station 4 is tentatively set for design in 2024 with construction to span 2025 and 2026.

9.1.5 Fire Station **5**

Fire Station 5 is located at 1146 South Service Road West and was built in 1990 and renovated in 2022. The station is a single storey building with two back-in apparatus bays, two offices, kitchen/ lounge, dormitory, and a small gym. The station is staffed by a pumper crew with a minimum of four firefighters and a heavy rescue truck staffed with a minimum of two firefighters. A facility assessment conducted in 2024 identified the station condition as poor. The 2024 facility assessment of this station will inform the planning for renovating or replacing Station 5. Though minor dorm renovations were completed, this two-crew station is prioritized for replacement within the long-term (approximately 10 years). This station is located adjacent to the OFD Training Campus, which currently houses Training and Fire Prevention Division staff.

9.1.6 Fire Station **6**

Fire Station 6 is located at 1510 Postmaster Drive and was built in 1993. The station is a two-storey building with two drive through apparatus bays, a full basement under the living quarters, one office, a study, kitchen/lounge, dormitory, and a gym. The second storey originally housed the training division until the establishment of the training campus in 2000 and is now used for storage. A BCA was conducted in 2023 and listed the condition as “Good”.

The station is staffed with a pumper crew with a minimum of four firefighters and one reserve aerial.

9.1.7 Fire Station 7

Fire Station 7 is located at 2010 Joshua Creek Drive and was built in 1998. The station is a single storey building with two drive through apparatus bays and a full basement under the living quarters. The station offers an office, study, dormitory, a kitchen/lounge, and a gym.

A BCA was conducted in 2011 and listed the condition as “Fair”. The station is staffed with a pumper with a minimum of four firefighters and a heavy rescue with a minimum of two firefighters.

9.1.8 Fire Station 8

Fire Station 8 is located at 3025 Pine Glen Road and construction was completed in 2020. It is LEED Silver certified. The station is a single storey on grade construction building with two drive-through apparatus bays and one back-in bay. The station offers one office, kitchen/ lounge, dormitory, gym and a meeting room. Due to the newness of the station a BCA has not been conducted at the time of writing this FMP.

Station 8 is equipped with a pumper with a minimum of four firefighters and a reserve pumper apparatus along with the OFDs S293 which is a specially built hook lift truck to transport the off-road Argo Centaur apparatus.

9.1.9 Fire Station 9

Fire Station 9 is located at 3250 Neyagawa Boulevard and was built in 2014. The station was built as a temporary station located in the Town of Oakville North Operations Work yard and shares part of a building designated for a future maintenance shop. The station offers one back-in apparatus bay, an office, kitchen/lounge, and a dormitory.

The station is staffed with a pumper with a minimum of four firefighters.

9.1.10 Emergency Stand-by Generators

Each fire station in the Town of Oakville is equipped with either a diesel or natural gas emergency stand-by generator to ensure uninterrupted power supply during power outages. This is considered an industry best practice for business continuity, as it ensures that the fire stations can remain operational during electrical or environmental emergencies that may affect the power grid. Additionally, the Oakville Fire Department has a triaxle trailer equipped with a reliable emergency stand-by generator, which can be used as an alternative in the event one of the station generators fails.

9.1.11 Fire Station Diesel Emissions

OHSA Section 21 Firefighter Guidance Note 3-1 – Reducing Exposure to Diesel Exhaust requires that employers must "make sure the fire station is adequately ventilated by either natural or mechanical means so that the atmosphere does not endanger the health and safety of workers".[40] The Town of Oakville Fire Department has taken proactive steps to assist in mitigating the exposure of staff to diesel exhaust emissions in the apparatus bays of each fire station with the installation of Nederman diesel exhaust extractors which meets industry best practices for addressing Guidance Note 3-1.

[40] OHSA, Section 21 Firefighter Guidance Note 3.1 Reducing Exposure to Diesel Exhaust.

9.1.12 Structural Fire Fighting Personal Protective Clothing Storage

The storage of structural firefighting personal clothing commonly referred to as bunker gear has evolved over the years to address the issue of containment of potential contaminants that the bunker gear can retain after an emergency call and the absorption of diesel exhaust fumes from a time when bunker gear was stored on the walls of the apparatus bays. OHSA Section 21 Guidance Note 4-8 Care, Maintenance, Inspection and Replacement of Structural Firefighting Personal Protective Clothing (bunker gear) reference the importance of storage of this equipment. Municipal best practices for bunker gear storage reflects the use of separated, ventilated (exhausted to outdoors) storage rooms.

Proper storage of bunker gear is crucial for the longevity of the equipment and the well-being of firefighters. Separation and ventilation of the gear are recommended practices that protect it from exposure to diesel emissions, which can cause damage over time. Additionally, the gear itself can release toxins into the air of the station after it has been used at active fire calls.

The storage of bunker gear at OFD Stations 3 and 8 is in compliance with the recommended best practices mentioned in Section 21 Guidance note 4-8. The gear is stored in properly contained and power-vented rooms, ensuring safe storage of the gear. However, Station 4 stores its bunker gear separately, in a non-vented room while Stations 1, 2, 6, and 9 store their gear in an area that is open to the apparatus bay(s). While this practice is not ideal and does not meet the best practice standards, it is due to the age and/or the layout of the facilities.

To minimize the potential risks associated with storing bunker gear in these rooms, the current practice is to clean firefighting gear immediately upon return to the fire station after a fire call. This helps to eliminate off-gassing of contaminants from the bunker gear while being stored in the bunker gear areas. Furthermore, diesel exhaust systems are installed in all fire halls, which assists in protecting the gear from the absorption of diesel exhaust fumes. To continue being proactive in addressing proper storage for bunker gear, the OFD should assess the feasibility of renovating the bunker gear storage areas for Stations 1, 2, 6, and 9 to provide a separation from the apparatus bays and installing power vents as part of the renovations including Station 4 in an effort to bring it in line with best practices for the storage of bunker gear.

Operational Recommendation #35: That the OFD investigate the feasibility of renovating and installing power vents in the bunker gear storage areas as identified in this FMP.

9.1.13 Green Buildings and Facilities Initiatives

The transition towards the decarbonization of facilities and services is an opportunity for the Town of Oakville to be part of the growing global activity around climate action initiatives. Compared to a baseline year of 2014, the Town has committed to reduce its Green House Gas emissions by 20% (compared to 2014 levels) as of 2030 and achieve an 80% reduction (compared to 2014 levels) as of 2050. To align with the Town's net zero initiative, the Oakville Fire Department has incorporated low carbon technologies, strategies and solutions to achieving net-zero efficiencies in new and renovated fire station construction projects.

In support of the Town's environmental commitments, and in alignment with the Climate Action Key Corporate Objective the planning and construction of Oakville Fire Department buildings and facilities incorporates green building practices, such as Leadership in Energy and Environmental Design (LEED) Certification, where feasible. LEED (Leadership in Energy and Environmental Design) is a globally recognized rating system for the design, construction and operation of high-performance green buildings. For the last 18 years, various versions of LEED have pushed the global green building market forward progressively, with more than 93,000 registered and certified projects and more than 19 billion square feet of space worldwide. LEED certification is considered Canada's Green Building Standard. LEED is an internationally recognized third-party certification program for buildings and homes. It's administered in Canada by the Canada Green Building Council. LEED adopts a holistic approach to sustainability, accounting for the following five areas: location and transportation, sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

The Town has committed to achieving LEED Silver certification in all new facilities larger than 500 square metres. OFD strives to incorporate net zero sustainability practices into new fire station construction that meets LEED Silver certification. Newly constructed Fire Station 8, achieving LEED certification, is a showcase example of sustainability and demonstrates the Town's leadership in transforming the building industry.

9.1.14 Station/Facility Repair and Renewal

With the support of Council's key objective focused on Asset Management the Town of Oakville is well on its way to meeting the requirements of the O. Reg. 588/117 – Asset Management Planning for Municipal Infrastructure. The regulation requires every municipality to prepare an asset management policy and plan that will inform the long-term financial commitments and budgetary processes to maintain their assets and plan. From our research, the Town has met the requirements of the Asset Management Plan – Phase 1 and has established a robust capital planning program to manage the replacement of building components.

The Facility Construction Management (FCM) department in the Town is responsible for managing the larger building components such as roofs, windows, and exterior structures for replacement purposes. On the other hand, the day-to-day corrective and preventive repairs and replacement of smaller components are co-managed by FCM and the fire department administration. The Town of Oakville uses SharePoint software to manage the work order process, which allows all departments to access, report faults, document completed repairs, and close work orders.

9.2 Fire Suppression Guidelines and Standards

Within Ontario, there is no specific legislated standard that a community must achieve with regard to the type of firefighter (e.g., full-time, part-time or volunteer), number of firefighters, number of fire stations or the level of fire suppression services that must be provided. The Town of Oakville operates a full-time fire department, with a collective agreement in place between the Town and the Oakville Professional Fire Fighters' Association (International Association of Firefighters Local 1582) that established that only career-type firefighters can be employed in the Town.

As referenced in the previous section of this plan, the FPPA requires that determining the level of fire suppression services within the municipality is the role of the municipal Council. To assist municipal councils in this decision-making process, the FPPA assigns powers to the Office of the Fire Marshal that include responsibilities "to issue guidelines to municipalities respecting fire protection services and related matters"[41]. The OFM

[41] FPPA, 1997 Part III Fire Marshal, Powers of the Fire Marshal Section 9(1)(d).

complies with this requirement through the issuance of PFSG, Fire Marshal's Directives, Technical Guidelines, Communiques and other forms of communication. At this time, all PFSG are under review but have been authorized by the OFM for continued use for reference purposes. Where applicable, PFSGs have been utilized within this FMP to inform the analysis and to provide supporting reference documents.

As referenced throughout this FMP, in 2013 the Province of Ontario adopted the NFPA Pro-Qual training standards. NFPA standards have now become the foundation of firefighter training programs, professional qualifications and reference documents for firefighter safety as contained with the OHSA Section 21 Guidance Notes for the fire service. On April 14, 2022, the Ministry of the Solicitor General filed O. Reg. 343/22 – Firefighter Certification, requiring all Ontario firefighters to be certified to NFPA Pro-Qual standards over the next four to six years. Within this FMP the NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) has been utilized to inform the fire suppression service level analysis.

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

PFSG 04-08-10 – Operational Planning: An Official Guide to Matching Resource Deployment and Risk was released by the OFM in January 2011 and includes a "Critical Task Matrix" (CTM) to assist municipalities in determining the level of fireground staffing capabilities. The OFM states that "The CTM is based on the IMS. It will assist in identifying fireground staffing capabilities based upon low, moderate, high and extreme risk levels within your community."

The OFM has identified the critical tasks from the Incident Management System that are used during fireground operations. These tasks are consistent with applicable legislation, industry best practices and the Ontario Fire College Curriculum."[42]

The CTM further recognizes that within the IMS that:

[42] "Operational Planning: An Official Guide to Matching Resource Deployment and Risk Workbook," Ministry of the Solicitor General Website, Last Modified: May 5, 2017, http://www.mcscs.jus.gov.on.ca/english/FireMarshal/FireServiceResources/PublicFireSafetyGuidelines/04-08-10at1.html

- Upon arrival and rapid size-up, the incident commander can upgrade or downgrade response;
- Crews can be reassigned to other tasks once original assignments are complete;
- Response protocols can be established with specific risk levels used to assist with pre-planning to obtain more resources based on the escalating nature of the emergency;
- Fire departments perform rescue and building personnel conduct evacuations according to their approved FSPs; and
- Some tasks will never be assigned based on the tactical approach chosen by the incident commander (e.g., offensive versus defensive).

The CTM identifies a lower and upper range of the number of firefighters required to respond for each of the four risk levels. The actual number of firefighters within each range is based upon analysis of actual fires, the OHSA Section 21 Guidance Notes affecting firefighters, and industry best practices.

The CTM was informed by the NFPA 1710 Standard in place at the time of its development. These standards are both identified in the reference section of PFSG 04-08-10. In contrast to these NFPA Standards, the CTM includes very broad lower and upper-level incident response ranges to effectively, efficiently and safely conduct fire suppression operations. For example, to safely complete the tasks associated with a fire in moderate risk (Group C – Residential Occupancy) the CTM identifies a range of 16 to 43 firefighters that would be required. In part this range can be associated with the range of fire suppression resources that may be available in Ontario that include volunteer, part-time and full-time firefighters.

9.2.2 NFPA **1710** Standard (**2020** Edition)

In contrast to the OFM Critical Task Matrix the NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) provides fire suppression staffing performance benchmarks for municipalities that utilize only career (full-time) firefighters.

The NFPA 1710 Standard is designed for larger municipalities such as the Town of Oakville that, as a result of many factors, are operating their fire department utilizing only career (full-time) firefighters.

Relevant references from NFPA 1710 include the following:

- This standard applies to the deployment of resources by a fire department to emergency situations when operations can be implemented to save lives and property[43]; and
- The standard is a benchmark for most common responses and a platform for developing the appropriate plan for deployment of resources for fires in higher hazard occupancies or more complex incidents[44].

These NFPA 1710 references support the fire mandate of saving lives and property, as well as recognizing the standard as a "benchmark" for determining the appropriate level of resources based on the complexity and level of fire risk present. This standard identifies minimum firefighter deployment benchmarks based on the fire risks present within a range of building occupancy types.

It is important to note that this NFPA 1710 Standard is designed for application within a broad range of jurisdictions across North America. This standard was not specifically developed for the delivery of fire suppression services within the Province of Ontario that has a more stringent Fire Code and Building Code than may be found in other jurisdictions. For example, O. Reg. 364/13 requires mandatory annual fire inspections and fire drills in vulnerable occupancies designated as a care and treatment occupancy, a care occupancy or a retirement home. Ontario also has mandatory requirements for sprinkler system installation in vulnerable occupancies, and requirements for enhanced fire and life safety systems in other building occupancies such as high-rise buildings.

It is also important to note that the NFPA 1710 Standard requires that the fire suppression deployment model be informed by a formal Community Risk Assessment[45].

---

[43] NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) Chapter 1 Administration, Application Section 1.3.1.

[44] NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) Chapter 1 Administration, Application Section 1.3.2.

[45] NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) Chapter 5 Fire Department Services, Section 5.2.1.1 Fire Suppression Capabilities.

In Ontario, the development of a CRA is now a mandatory requirement for all municipalities to comply with O. Reg. 378/18 – Community Risk Assessments.

The NFPA 1710 Standard includes the following fire suppression deployment models based on the type of building occupancy and potential fire risks present:

- Initial Arriving Company;
- Second Arriving Company;
- Single-Family Dwelling Initial Full Alarm Assignment;
- Open-Air Strip Shopping Center Initial Full Alarm Assignment;
- Apartment Initial Full Alarm Assignment; and
- High-Rise Full Alarm Assignment.

9.2.2.1 Initial Arriving Company

The Initial Arriving Company is commonly referenced within the fire service as the initial responding apparatus deployed to an emergency incident. Fire service leaders and professional regulating bodies have agreed that until a sufficient number of firefighters are initially assembled on-scene, initiating tactics such as entry into the building to conduct search and rescue, or initiating interior fire suppression operations are not safe practices. Based on NFPA practices, if fewer than four firefighters arrive on scene, they must wait until a second apparatus, or additional firefighters arrive on scene to have sufficient staff to commence these initial activities.

Within the NFPA 1710 Standard an 'Initial Arriving Company' is referenced as an 'Engine Company' (pumper in OFD) with a minimum staffing of four firefighters whose primary functions are to pump and deliver water and perform basic firefighting at fires, including search and rescue.

An Initial Arriving Company of four firefighters, once assembled on-scene, is typically assigned the following operational functions:

- The officer in charge shall assume the role of Incident Commander;
- one firefighter shall be designated as the pump operator;
- one firefighter shall complete the task of making the fire hydrant connection; and
- the fourth firefighter shall prepare an initial fire attack line for operation.

The assembly of four firefighters on the fire scene provides sufficient resources to safely initiate limited fire suppression, or rescue operations.

This first crew of four firefighters is also able to conduct the strategic operational priority of "size-up" whereby the officer in-charge can evaluate the incident and where necessary, request additional fire suppression resources that may not have been dispatched as part of the initial alarm.

The NFPA 1710 fire suppression deployment model for the initial arriving company requires a minimum of four firefighters arriving on scene with an 'Engine Company' (pumper in OFD) within a four-minute (240 seconds) travel time to 90% of the fire suppression incidents.

9.2.2.2 Second Arriving Company

The NFPA 1710 Standard (2020 Edition) includes a new performance benchmark for the deployment and arrival of the second responding apparatus. The standard does not reference a specific type of apparatus for the second arriving company but does require that it be staffed with a minimum of four firefighters. The term 'company' in this standard can be defined as "being usually organized and identified as engine companies (pumpers in Oakville), ladder companies (aerials in Oakville), rescue companies, squad companies or multi-functional companies"[46]

The NFPA 1710 fire suppression deployment model for the second arriving company requires a minimum of four firefighters arriving on scene with a 'Second Company' within a six-minute (360 seconds) travel time to 90% of the fire suppression incidents.

9.2.2.3 Single-Family Dwelling – Initial Full Alarm Assignment

In comparison to the deployment of an 'Initial Arriving Company' the term 'Initial Full Alarm Assignment' refers to "Those personnel, equipment, and resources ordinarily

46 NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) Chapter 3 Definitions, Section 3.3.15.

dispatched upon notification of a structure fire"[47]. An initial full alarm assignment represents the 'total' number of firefighters initially deployed to a structure fire.

In this deployment standard a single-family dwelling is defined as "a typical 2,000 square feet (186 square metres) two-storey single-family dwelling without basement and with no exposures"[48]. This definition is a further example of the broad definitions utilized by the NFPA that in this instance may not necessarily represent the definition of a typical single-family dwelling in Ontario. Most single-single family dwellings in Ontario have basements to accommodate heating systems.

The NFPA 1710 fire suppression deployment model for an initial full alarm assignment to a single-family dwelling includes a minimum deployment of 16 firefighters (17 if an aerial device is used) described as the 'total effective response force' arriving on scene within an eight-minute (480 second) travel time to 90% of the fire suppression incidents in this occupancy type.

9.2.2.4 Open-Air Strip Shopping Center – Initial Full Alarm Assignment

In this deployment standard an open-air strip shopping center is defined as ranging in size from 13,000 square feet (1,203 square metres) to 196,000 square feet (18,209 square metres). This deployment model is described as having a total effective response force of a minimum of 27 firefighters (28 if an aerial device is used).

This deployment model includes "the establishment of an initial medical care component consisting of at least two members capable of providing immediate on-scene medical support and transport that provides rapid access to civilians or members potentially needing medical treatment"[49]. In the Town of Oakville these services are

47 NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) Chapter 3 Definitions, Section 3.3.40 Initial Full Alarm Assignment.
48 NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) Chapter 5 Fire Department Services, Section 5.2.4.1.1.
49 NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) Chapter 5 Department Services, Section 5.2.4.1 (9).

provided by the Halton Region Paramedic Services (HRPS). As such the total effective response force to be provided by the OFD would be a minimum of 25 firefighters (26 if an aerial device is used) arriving on scene within an eight-minute (480 second) travel time to 90% of the fire suppression incidents in this occupancy type.

9.2.2.5 Apartment – Initial Full Alarm Assignment

In this deployment standard an apartment is defined as a typical 1,200 square feet (111 square metres) apartment within a three-storey garden style apartment building. This deployment model is also described as having a total effective response force that includes a minimum of 27 firefighters (28 if an aerial device is used) and includes the same establishment of initial medical care as described in the open-air strip shopping center initial full alarm assignment deployment model that would be provided by the Region of Waterloo Paramedic Services (RWPS).

The applicable deployment model for the OFD would include an initial minimum deployment of 25 firefighters (26 if an aerial device is used) described as the 'total effective response force' arriving on scene within an eight-minute (480 second) travel time to 90% of the fire suppression incidents in this occupancy type.

9.2.2.6 High-Rise – Initial Full Alarm Assignment

In this deployment model a high-rise building is described as having the highest floor greater than 75 feet (23 metres) above the lowest level of fire department vehicle access. This deployment model is described as having a total effective response force that includes a minimum 42 firefighters (43 if the building is equipped with a fire pump) and includes the same establishment of initial medical care as described in the open-air strip shopping center initial full alarm assignment deployment model that would be provided by the HRPS.

The applicable deployment model for the OFD would include an initial minimum deployment of 38 firefighters (39 firefighters if the building is equipped with a fire pump) described as the 'total effective response force' arriving on scene within a 10 minute and 10 second (610 second) travel time to 90% of the fire suppression incidents in this occupancy type.

9.2.2.7 Vertical Response Times

High-rise structure fires are unique in the method of fire suppression, as detailed in a publication by the NFPA called Structural Firefighting: Strategy and Tactics.[50] When a fire is located above the eighth floor, exterior suppression methods are no longer effective. In these cases, fire suppression is mainly undertaken inside the building. Firefighters create a staging floor; usually two floors below the fire floor. Firefighters will travel to and from the staging area and the fire floor or evacuation floors. The staging area is the location of all safety and suppression equipment needed to combat the fire. Firefighters must get this equipment to the staging area. When fire service access elevators cannot be used firefighters climb the stairs with the equipment. Even in the best conditions climbing the stairs takes time. The average vertical response time, average time it takes for a firefighter to climb the stairs, is shown in Table 20. To climb to the tenth floor, it would take a firefighter on average three minutes and seven seconds.

Table 20: Vertical Response

Floors	Average Time per Floor in Seconds
1 to 10	20.8
11 to 20	27.8
21 to 30	33.6
31 to 40	45.9
41 to 48	59.0

Source: Structural Firefighting: Strategy and Tactics.

Ascending with equipment can be physically exhausting. When dedicated fire service access elevators cannot be used additional alarms must be ordered to set-up stairway support to ensure firefighters have enough stamina for fire suppression after ascending. Stairway support is a system to carry equipment to the staging area.

[50] Source: Klaene, Bernard, Sanders, Russell, "Structural Firefighting: Strategy and Tactics," Jones and Bartlett Learning, 2007.

A firefighter is usually positioned every two floors and ascends two floors with equipment where the next firefighter pick up the equipment. This gives each firefighter a rest period during their two-floor descent[51].

9.2.2.8 Vertical Response Data Collection

As discussed in the 2016 FMP and this current FMP, the Town of Oakville is growing in two ways: greenfield development (i.e., building out) and intensification (building up). The Town is already experiencing and planning for increased intensification, including high-rise developments. The CRA identified that the Town currently has 135 buildings defined by the OBC as high-rise buildings with a floor level 18 metres (59 feet) above grade, or six storeys, distributed throughout the urban area. Considering the probability and consequence of a fire incident in high-rise buildings, this was identified as a high-risk for the Town.

The fourth fire strategic goal of this FMP states that "Town of Oakville supports the delivery of fire protection services required to meet the needs and circumstances of planned future community growth and intensification." As the Town intensifies OFD will be required to deliver fire protection services to high-rise and high-density developments. This will include public fire safety education and fire prevention efforts (first two lines of defence) as well as emergency response as the third line of defence.

Vertical response is the time difference from the initial arrival of the fire crews at the address of the high rise building to the actual arrival of fire crews to the fire floor. The time difference is critical in the growth of the fire and for the firefighting crews' actual ability to apply water to the fire or perform a potential rescue. In order to assess current vertical response performance and plan for the future needs of the department to serve the growing community OFD should implement a process to collect, record, review and analyze its vertical response times experienced on-scene. This data will be essential for the purpose of evaluating the OFD's vertical response performance and to identify potential gaps/needs at the five-year review and update of this FMP.

[51] Provided as an example of best practices. Does not reflect current tactics of OFD.

Operational Recommendation #36: That the OFD prioritize the implementation of a process to record, monitor and understand the impacts of the vertical response performance for all emergency responses to incidents at high-rise buildings to inform future department planning.

9.2.3 Summary of Fire Suppression Guidelines and Standards

The analysis within the preceding sections of this FMP consider the current PFSG's authored by the OFM and the NFPA 1710 Standard (2020 Edition) for identifying the applicable performance benchmarks for the delivery of fire suppression services within the Town of Oakville. In our view, the performance benchmarks included within the NFPA 1710 Standard (2020 Edition) represent current industry best practices for assessing the existing and future fire suppression services within the Town of Oakville.

9.3 Importance of Time with Respect to Fire Growth

Understanding how a fire grows from the time of ignition is a critical element of assessing a municipality's fire protection program including the application of the "three lines of defence". Research conducted by the OFM and National Research Council of Canada indicates that a fire in a non-sprinklered residential occupancy can spread from the room where the fire originates in 10 minutes or less. Tests have shown that the fire can extend from the room of origin in as little as three minutes, under fast fire growth conditions.

Fire growth rates, defined by the Society of Fire Protection Engineers as slow, medium and fast, are listed in Table 21. The fire growth rates are measured by the time it takes for a fire to reach a one-megawatt (MW) fire. This is roughly equivalent to an upholstered chair burning at its peak. A two MW fire is approximately equal to a large, upholstered sofa burning at its peak.

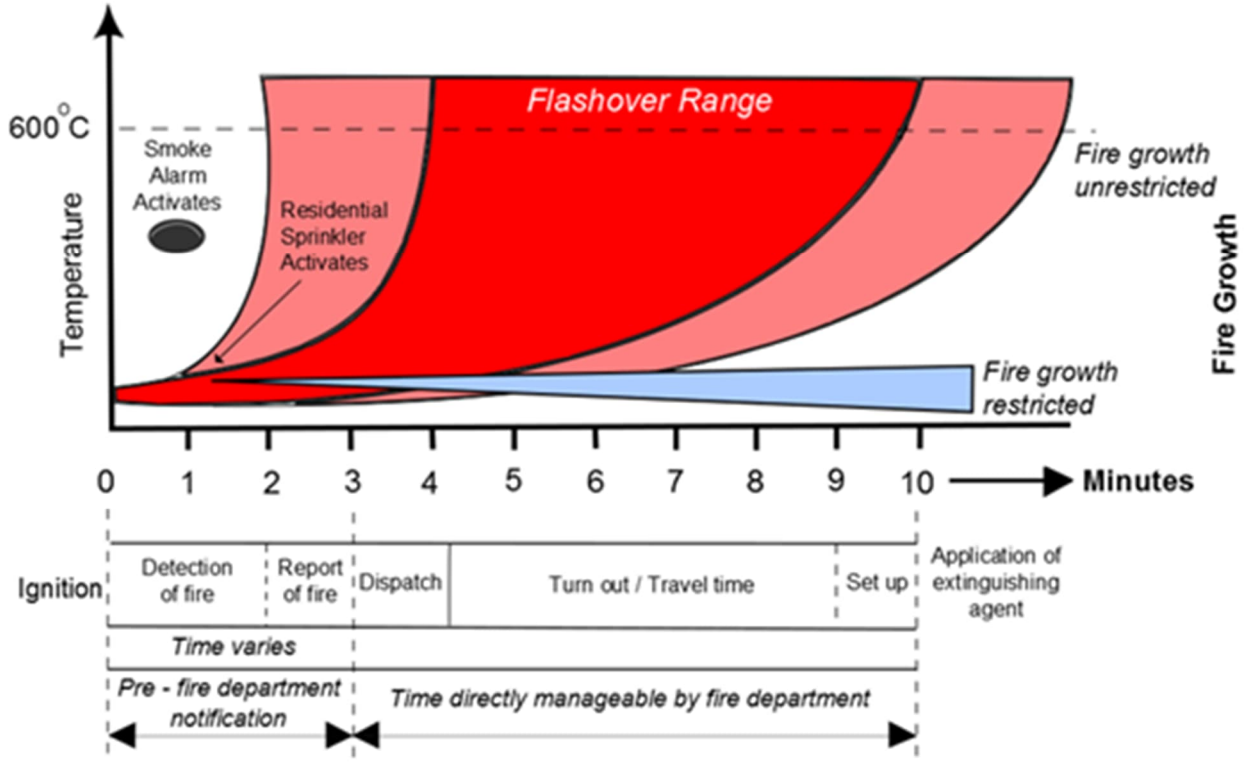
Table 21: Time to Reach 1 MW and 2 MW Fire Growth Rates

Fire Growth Rate	Time in Seconds to Reach 1 MW	Time in Seconds to Reach 2 MW
Slow	600 seconds	848 seconds
Medium	300 seconds	424 seconds
Fast	150 seconds	212 seconds

Source: "Operational Planning: An Official Guide to Matching Resource Deployment and Risk", Office of the Fire Marshal, January 24, 2011, p. 4

In less than 10-minutes from ignition a fire can reach the point of "flashover" representing a point in the fires growth and intensity that all of the combustible items within a given space reach a temperature that is sufficiently high enough for them to auto-ignite. The fire prorogation curve shown in Figure 7 illustrates the importance of the time period prior to the fire department being notified and alerted to deploy fire suppression resources.

Figure 7: Fire Propagation Curve



Source: Fire Underwriters Survey "Alternative Water Supplies for Public Fire Protection: An Informative Reference Guide for Use in Fire Insurance Grading" (May 2009) and NFPA "Fire Protection Handbook" (2001).

Within the pre-fire department notification period, the presence of working smoke alarms, CO alarms and public education that has guided the residents of the building to develop and practice a home escape plan are critical elements to the life safety of the occupants. It is within this pre-fire department notification period that the first two lines of the "three lines of defence" are critical to the life safety of the occupants. These are the factors that support the proposed fire strategic goals presented within this FMP including:

1. The Town of Oakville is committed to the use of its CRA, as required by O. Reg. 378/18, as a fire strategic goal to assess the fire safety risks within the community as the basis for developing clear goals and objectives for all fire protection services provided by the Oakville Fire Department.
2. The Town of Oakville is committed to the optimization of the first two lines of defence, including the delivery of public education and fire prevention programs, and the use of fire safety standards and fire code enforcement as a fire strategic goal for the Oakville Fire Department in providing a comprehensive fire protection and risk-reduction program within the community.

9.4 Historical Emergency Response Performance

The previous FMP was prepared in 2015, and reviewed OFD data and statistics up to the end of 2014. The data used for the analysis within this FMP is a compilation of all historical calls for service and emergency response incidents that the OFD responded to from January 1, 2015, to December 31, 2022 (complete eight-year data set).

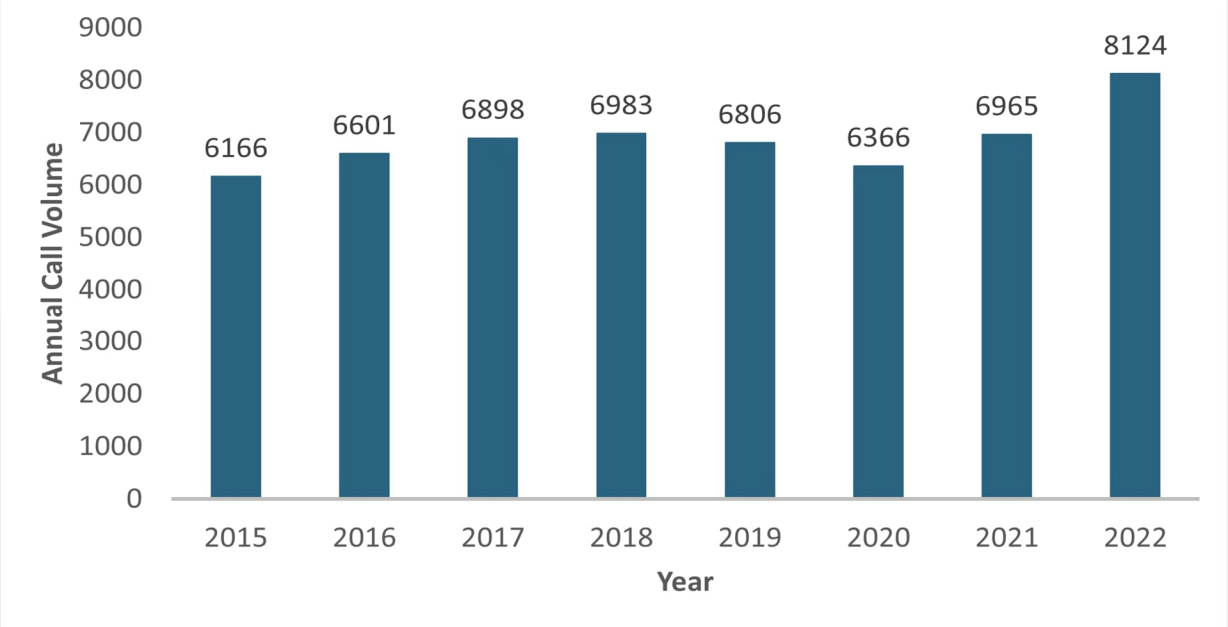
The analysis presented below applies the historical call data set in two different ways. The first method assesses all calls (all incidents and call types). This approach was used to assess call volumes of the department, stations, apparatus, etc. The second method separates out the emergency incidents/calls (i.e., those responded to with emergency lights and sirens on). This data sub-set was used to assess emergency response performance such as dispatch time, turnout time, travel time and total response time.

For the majority of the statistics presented, only the initial arriving company is included; this is to ensure a single incident is not counted multiple times, potentially impacting the accuracy of the analysis.

9.4.1 Annual Call Volume – All Calls, All Incident Types

Annual call volumes provide insight into the historical and existing emergency response workload of a fire department. This includes the analysis of all emergency response incident types, as defined by the OFM SIR Reports). Figure 8 presents the total annual call volumes from 2015 to 2022. The data shows an increasing trend, with a volume of 6,166 calls for emergency response in 2015 and a total of 8,124 calls in 2022. This represents a 32% increase over the eight-year period. A decrease in call volume was observed in 2020 with 6,366 calls, and the call volume remained relatively flat in 2021. The 2020 decrease in call volume is attributed to the unique circumstances of the COVID-19 pandemic resulting in an anomalous year of call volume due to a region-wide fire department reduction in responses to medical incidents. The 2021 volume was likely impacted by behaviour changes of Oakville residents during continued pandemic restrictions, such as reduced commuters and therefore fewer motor vehicle-related responses. Similar trends were experienced by most urban fire departments in Ontario. The 2022 volumes increased to what would have been anticipated by projecting pre-pandemic call volume growth trends.

Figure 8: Annual Call Volume – All Calls, All Incident Types

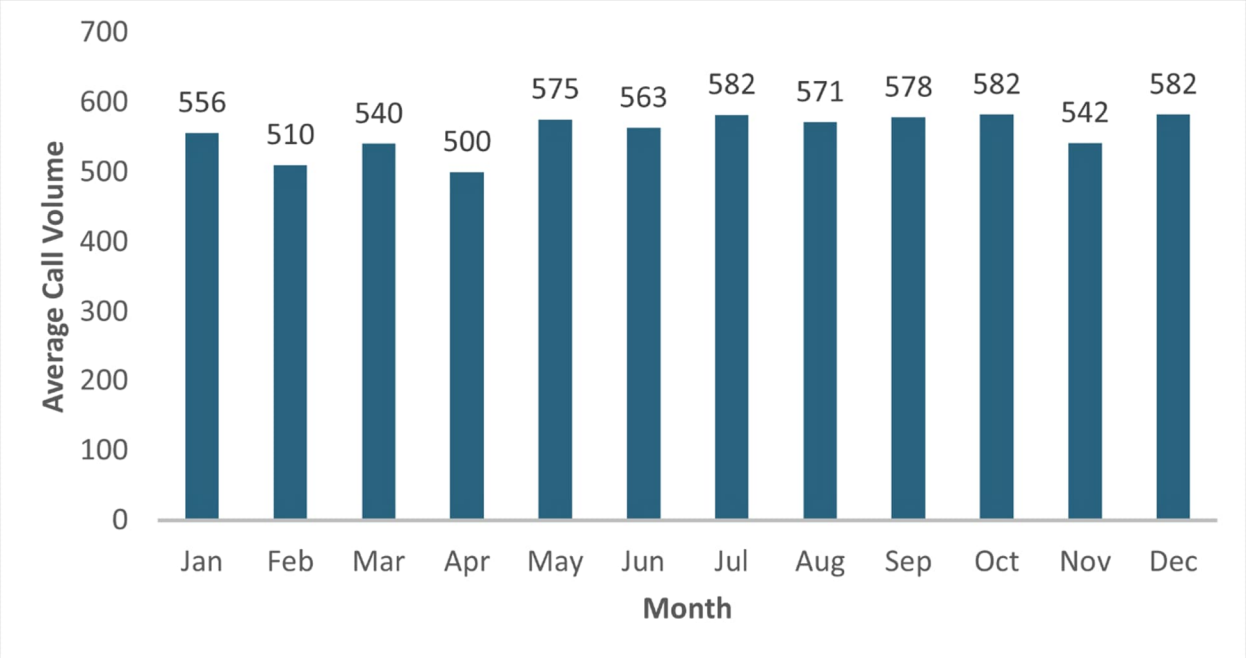


Source: Oakville Fire Department Emergency Response Call Data.

9.4.2 Average Call Volume by Month – All Calls, All Incident Types

Figure 9 presents the average call volume per month, responded to by OFD. The average calls per month across the eight-year data set is 557. As shown below, the monthly call volumes are fairly consistent throughout the year. February (a month of 28 or 29 days in length) and April (a month of 30 days) have historically experienced the lowest call volumes at 510 and 550 average calls respectively. July, October and December (all months with 31 days) have experienced the highest average calls (582) within the past eight years.

Figure 9: Average Call Volume by Month – All Calls, All Incident Types

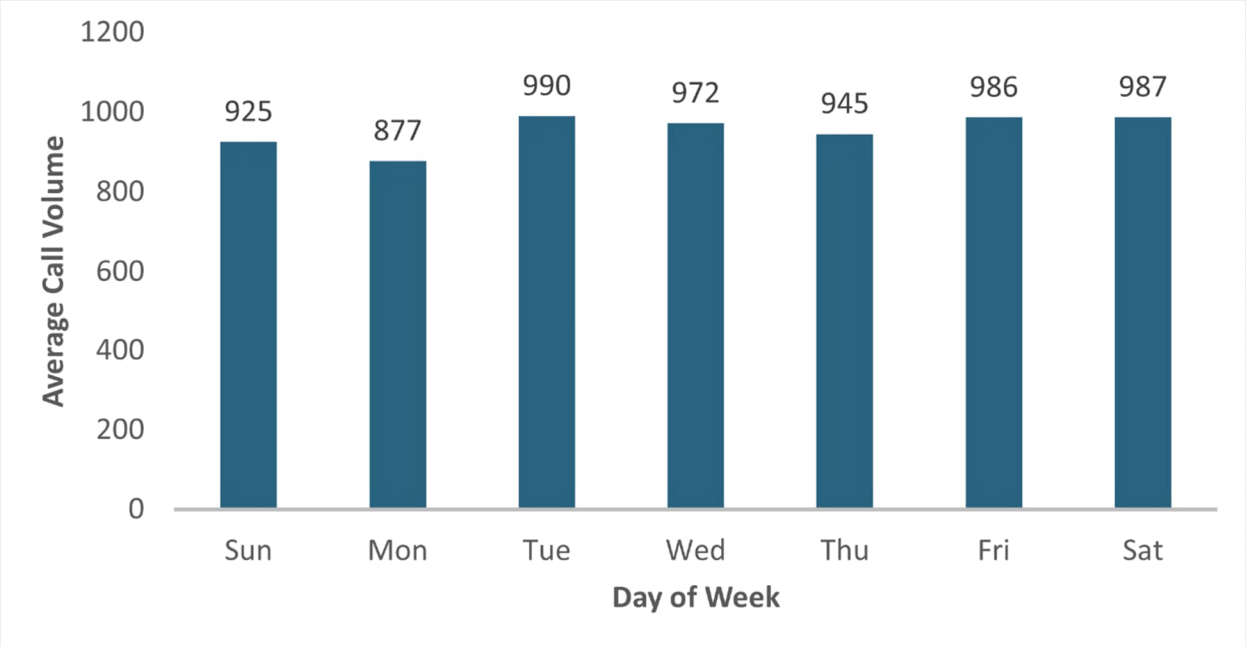


Source: Oakville Fire Department Emergency Response Call Data.

9.4.3 Average Call Volume by Day of Week – All Calls, All Incident Types

Over the past eight years, OFD has received an average of 955 calls for service each day. Figure 10 illustrates the average call volume by the day of the week for the period from January 1, 2015, to December 31, 2022. As shown the highest volumes of calls occurred on Tuesdays (990), Saturdays (987) and Fridays (986) and the lowest volume of calls occurred on Mondays (877).

Figure 10: Average Call Volume by Day of Week – All Calls, All Incident Types

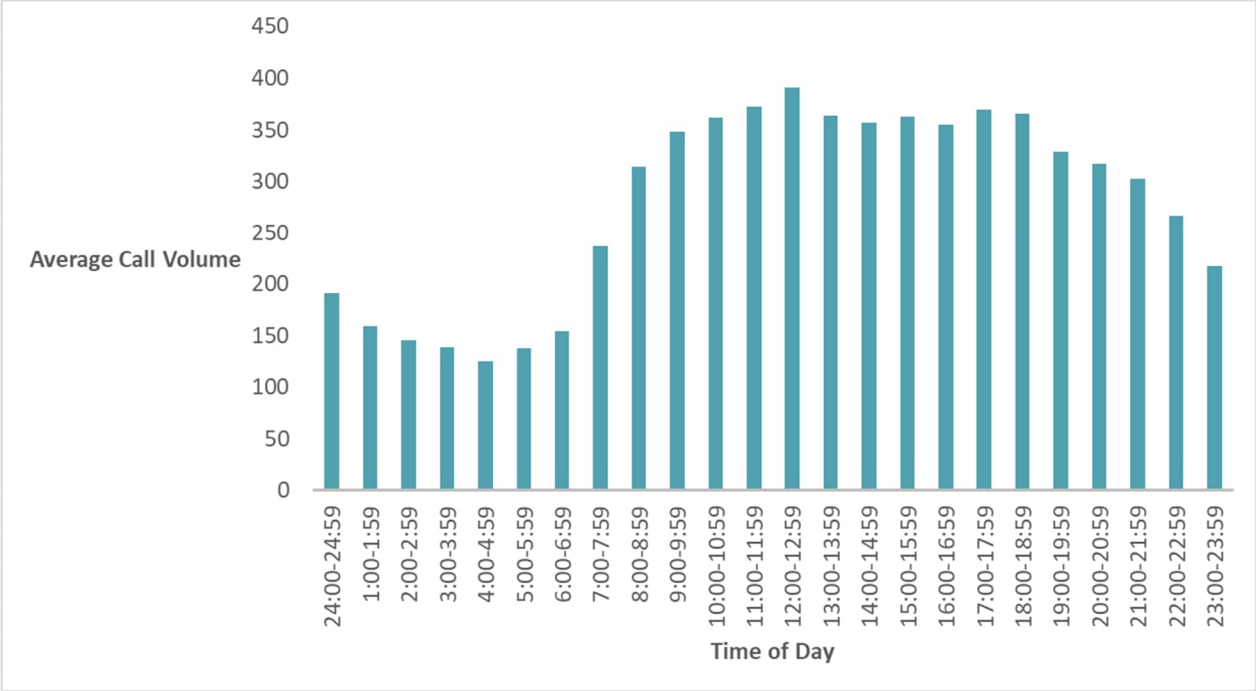


Source: Oakville Fire Department Emergency Response Call Data.

9.4.4 Average Call Volume by Time of Day – All Calls, All Incident Types

Figure 11 presents the analysis of the average call volume by time of day from January 1, 2015, to December 31, 2022. The average hourly call volume over the past eight years has been 278 calls. The results in the figure below indicate that the highest volume of calls for service have historically occurred during the daytime between 8:00 AM and 10:00 PM. There is a notable drop in the volume of incidents between the hours of 11:00 PM to 7:00 AM, when most people are sleeping. It is important to note from a risk perspective that it is during the time period when people are sleeping that they are most vulnerable to the effects of a fire, such as smoke inhalation.

Figure 11: Average Call Volume by Time of Day – All Calls, All Incident Types

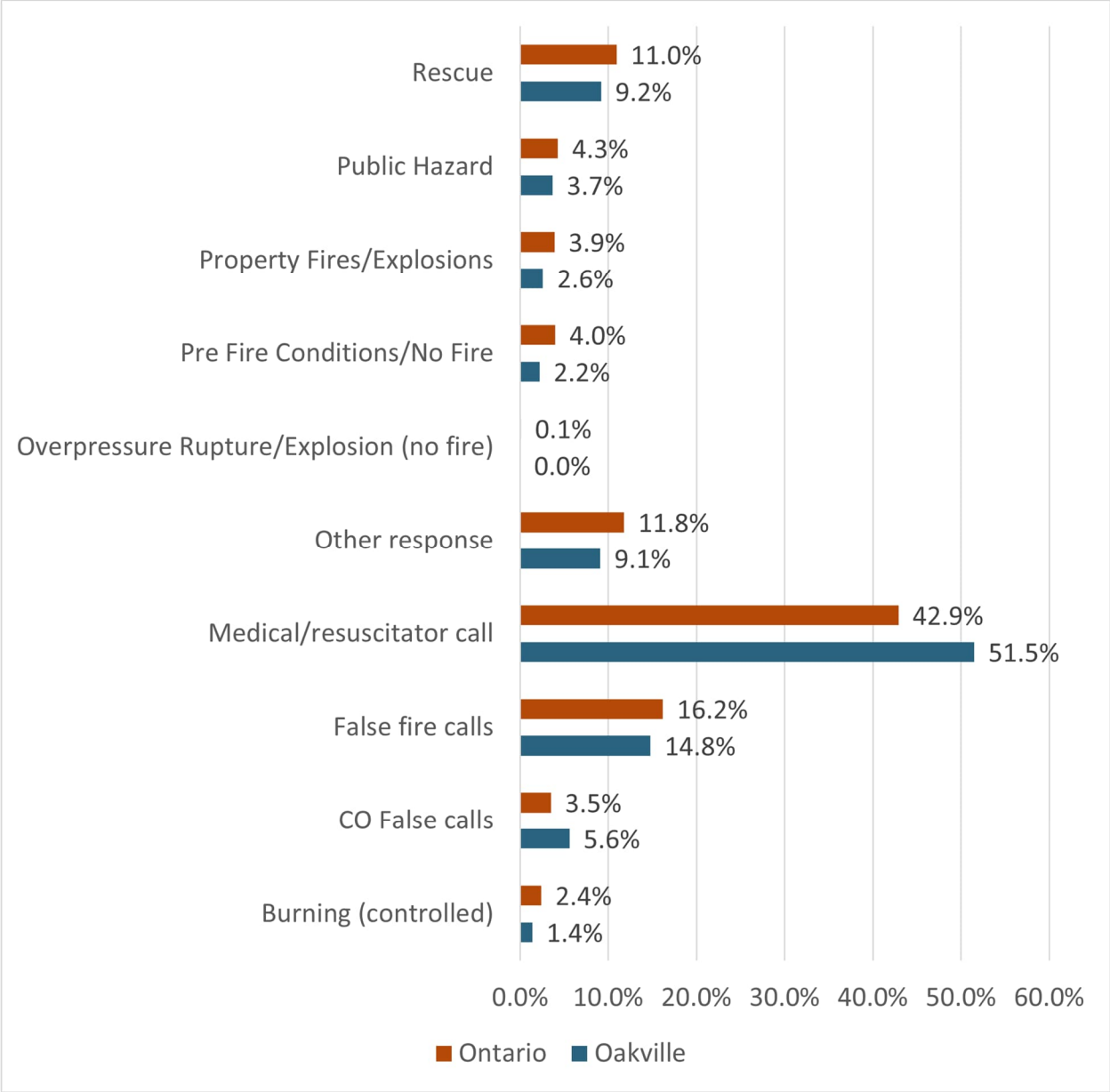


Source: Oakville Fire Department Emergency Response Call Data

9.4.5 Call Distribution by OFM Incident Type (All Calls), Oakville versus Ontario

Figure 12 illustrates the distribution (percentage) of all calls by the identified OFM incident type for the period from January 1, 2016, to December 31, 2020 (OFM Data), and compares the OFD results (shown in blue) to that of the Province (shown in red). This analysis indicates that medical/resuscitator calls represent the highest percentage of historical calls in Oakville, representing 51.5% of all calls over the five-year period. This is higher than the Provincial average of 42.9%. False fire calls represented the second highest percentage of calls in Oakville at 14.8% of all calls, which is lower than the provincial average of 16.2%. Rescue calls represented 9.2% of all calls within Oakville, lower than the provincial average at 11.0%. The percentage of false carbon monoxide calls for this period were higher in Oakville (5.6%) than the Province (3.5%). Property fires and explosions represented 2.6% of all call types in Oakville during this five-year period, which is slightly lower than the Province at 3.9%. These breakdowns of call types are consistent with full-time fire services in the GTA.

Figure 12: Call Volume Distribution by OFM Incident Type (All Calls, January 1, 2016, to December 31, 2020)



Source: OFM, Municipal Emergency Calls by Response Type Class

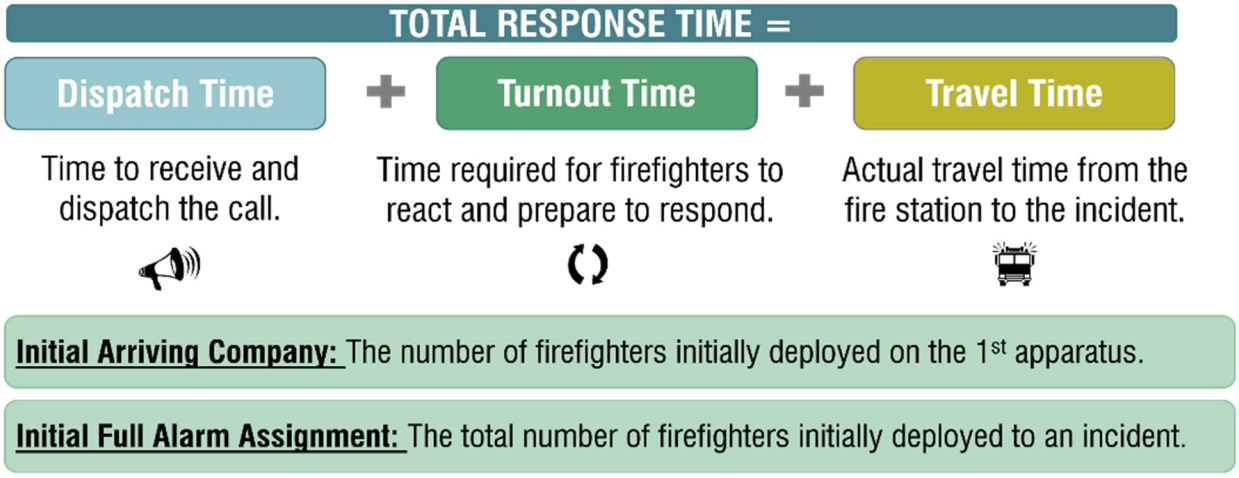
9.5 Historical Fire Suppression Emergency Response Analysis

The analysis within this section applies the emergency incidents call data sub-set, based on those call types that were responded to using emergency lights and sirens to assess emergency response performance. To prepare this sub-set of the complete eight-year data set, the information was sorted by the OFM incident response codes identified as

emergency. These emergency incidents were then further categorized as either “Fire”, “Medical” or “Other” responses, where “Other” incidents include a variety of incident types such as explosions and pre-fire conditions (no fire), public hazard (e.g., leaks and spills), false fire, rescue (e.g., vehicle collision or building collapse), and assisting other fire departments.

Within the fire service, fire suppression emergency response capabilities are assessed based on “Total Response Time” that represents the total of three primary elements including the “Dispatch Time”, “Turnout Time” and “Travel Time”. Figure 13 illustrates how these three elements relate to calculating the total response time.

Figure 13: Total Response Time



The performance benchmarks included within the NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) were utilized to inform the OFD historical emergency response performance including:

- Dispatch Time: Is equal to the value in the “Time to Dispatch Column” converted to seconds. NFPA 1710 Benchmark: 64 seconds.
- Turnout Time: Is equal to the value in the “Turnout Time Column” converted to seconds. NFPA 1710 Benchmark: 60 seconds for medical calls, 80 seconds for fire and other calls.
- Travel Time: Is equal to the value in the “Drive Time Column” converted to seconds. NFPA 1710 Benchmark for the initial arriving apparatus is 240 seconds (4 minutes).

9.5.1 Emergency Calls – Dispatch Time

In Canada, the CRTC regulates the carriers who supply the network to direct and connect 911 calls to regional centres across Ontario. Calls initiated by the public through the use of the 911 system are typically directed to a regional 911 centre first, and then rerouted to the applicable fire department. It is important to recognize this element of Ontario's 911 emergency dispatching process. As a result, the applicable NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (2019 Edition) applies only when the AHJ[52] in this instance being the OFD takes control of the "Emergency Event Processing/Dispatching"[53] process.

The NFPA 1710 – Standard for Organization and Deployment of Fire Suppression Operations by Career Fire Departments (2020) defines alarm processing time (dispatch time) as "The time interval from when the alarm is acknowledged at the communication center until response information begins to be transmitted via voice or electronic means to emergency response facilities (ERFs) and emergency response units (ERUs)."[54]

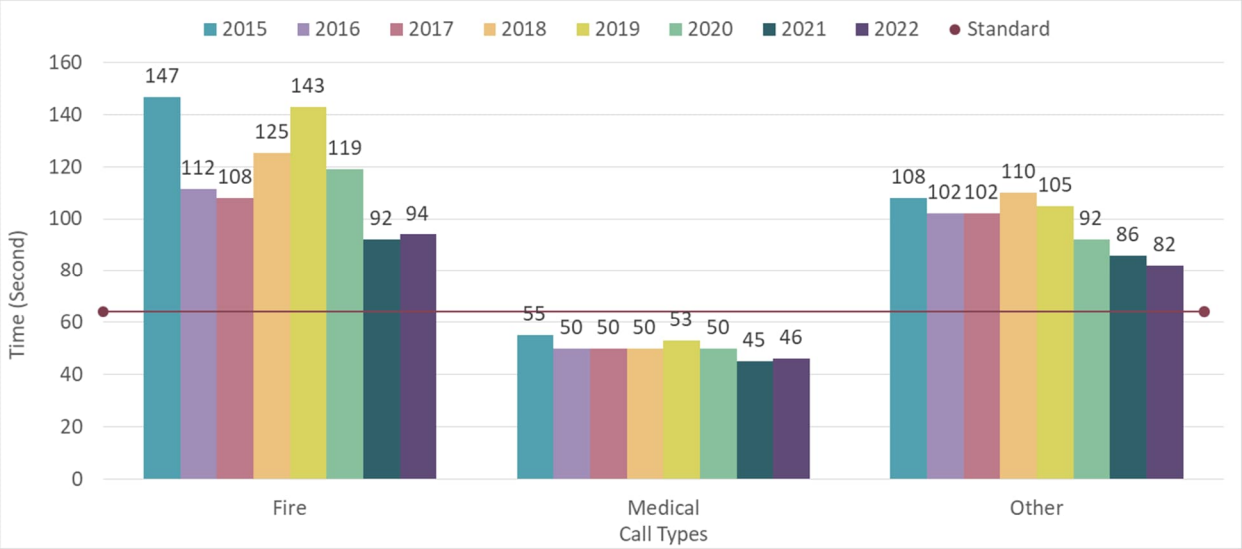
This standard requires that "The fire department shall establish a performance objective of having an alarm processing time of not more than 64 seconds for at least 90% of the alarms and not more than 106 seconds for at least 95% of the alarms processed, as specified by NFPA 1221"[55].

Figure 14 illustrates the dispatch times for the period from January 1, 2015, to December 31, 2022. Dispatch services are provided to OFD through a contracted agreement with the Burlington Fire Department. As shown in the figure below, the dispatch times for medical calls were under the 64 second, ninetieth percentile

[52] NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (2019 Edition), Chapter 3 Definitions, Section 3.2.2 Authority Having Jurisdiction.
[53] NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (2019 Edition), Chapter 3 Definitions, Section 3.3.50 Emergency Event Processing/Dispatching.
[54] NFPA 1710 - Standard for Organization and Deployment of Fire Suppression Operations by Career Fire Departments (2020 Edition), Chapter 3 Definitions, Section 3.3.64.3 Alarm Processing Time.
[55] NFPA 1710 - Standard for Organization and Deployment of Fire Suppression Operations by Career Fire Departments (2020 Edition), Chapter 4 Organization, Section 4.1.2.3.3.

performance benchmark for all years analyzed and the times are trending lower from 2015 to 2022. The analysis identifies that the historic dispatch performance for fire and other calls has exceeded the 64 second benchmark in all years, with an improving trend from 2015 to 2022 as the times continuously improve towards the performance target. In 2022 the ninetieth percentile dispatch time for fire calls was 94 seconds, 30 seconds greater than the target, and the ninetieth percentile dispatch time for other calls was 82 seconds, just 18 seconds higher than target.

Figure 14: Emergency Calls – Dispatch Time



Source: Oakville Fire Department Emergency Response Call Data

9.5.2 Emergency Calls – Turnout Time

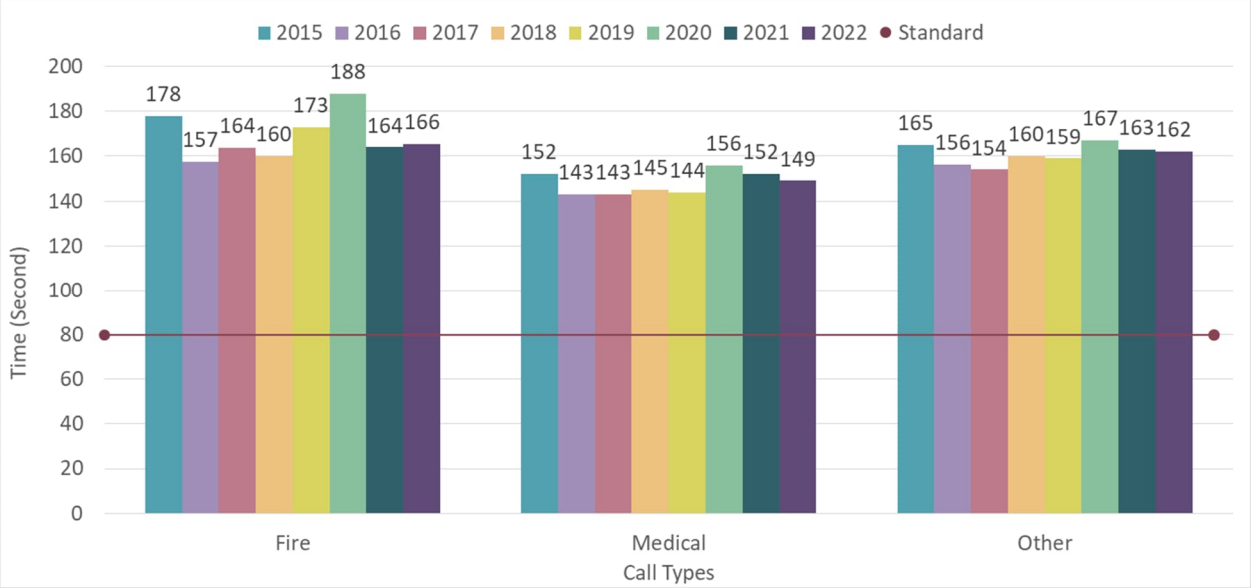
Turnout time is defined within NFPA 1710 – Standard for Organization and Deployment of Fire Suppression Operations by Career Fire Departments (2020) as "The time interval that begins when the ERFs and ERUs notification process begins by either an audible alarm or visual annunciation or both and ends at the beginning point of travel time."[56]

This standard identifies a performance benchmark of 80 seconds or less for all 'fire-related' and 'other' incidents and 60 seconds or less for 'medical/resuscitator' calls.

[56] Source: NFPA 1710 Standard for Organization and Deployment of Fire Suppression Operations by Career Fire Departments 2020 Edition – Section 3.3.64.8.

The general industry definition of firefighter turnout time is defined as the preparation time required between the emergency call being received at the fire station and the time the fire apparatus and firefighters leave the station to respond to the call.

Figure 15: Emergency Call Volume – Turnout Time (Initial Arriving Company)



Source: Oakville Fire Department Emergency Response Call Data

The analysis presented in Figure 15 indicates that for the period from January 1, 2015, to December 31, 2022, the OFD consistently exceeded the 80 second performance benchmark for fire emergency calls. In this time period the ninetieth percentile OFD turnout times for fire, medical and other calls are close to or more than twice as long as the targeted performance benchmark. The turnout time performance from 2015 to 2022 is very similar to the 2010 to 2014 results presented in the 2016 FMP. That report made two recommendations related to turnout time performance:

1. "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." and
2. "That as new stations are implemented, the design of the stations should target layouts which support timely turnout."

These recommended strategies continue to be applicable for OFD. Through this current FMP it is recommended that the OFD continue to identify and implement strategies to target the reduction of turnout times within the Fire Suppression Division.

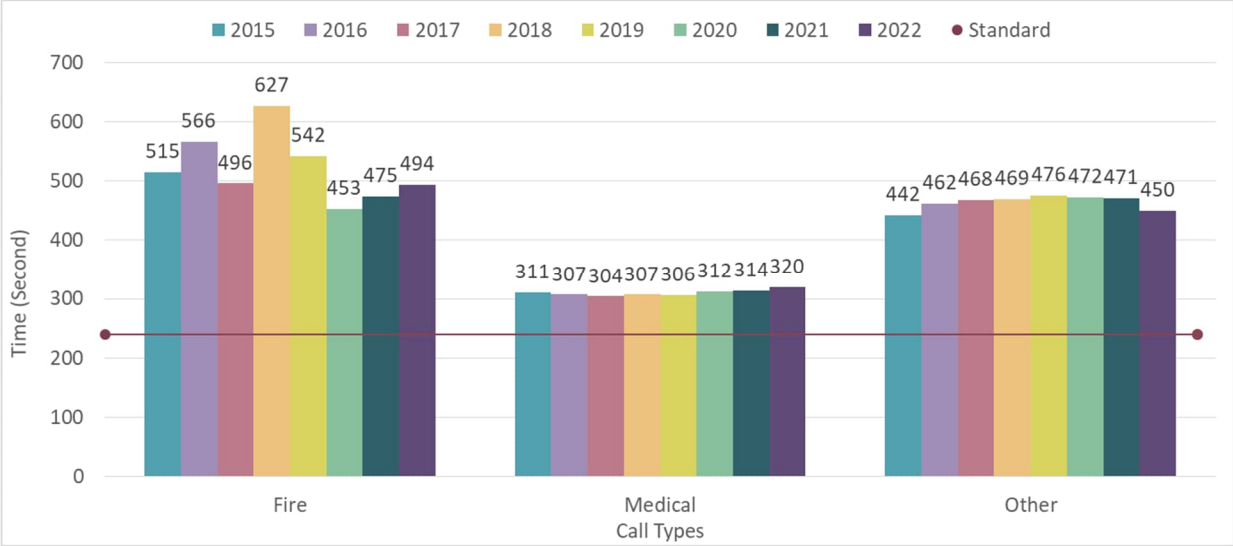
9.5.3 Emergency Calls – Travel Time (Initial Arriving Company)

Travel time is defined by NFPA 1710 – Standard for Organization and Deployment of Fire Suppression Operations by Career Fire Departments (2020) as "The time interval that begins when a unit is enroute to the emergency incident and ends when the unit arrives at the scene"[57].

This standard identifies a performance benchmark of 240 seconds or less travel time for the arrival of the Initial Arriving Company at a fire suppression incident 90% of the time. Figure 16 illustrates that for the period from January 1, 2015, to December 31, 2022, the OFD exceeded the 240 second performance benchmark. The data shows a general trend of increasing travel times for the initial arriving apparatus, with some variation in the pandemic years from 2020 to 2022. The analysis of travel times during the period from 2010 to 2014, presented in the previous FMP, shown an aggregate ninetieth percentile travel time of 331 seconds for fire calls, 304 seconds for medical calls and 375 seconds for other calls. Travel times are trending much higher under current conditions, as presented in this current FMP. This is expected as a result of increased traffic congestion and construction within the Town as it experiences continued growth, increased development and intensification.

[57] Source: NFPA 1710 Standard for Organization and Deployment of Fire Suppression Operations by Career Fire Departments 2020 Edition – Section 3.3.64.7.

Figure 16: Emergency Calls – Travel Time (Initial Arriving Company)



Source: Oakville Fire Department Emergency Response Call Data

9.5.4 Emergency Calls – Total Response Time Performance

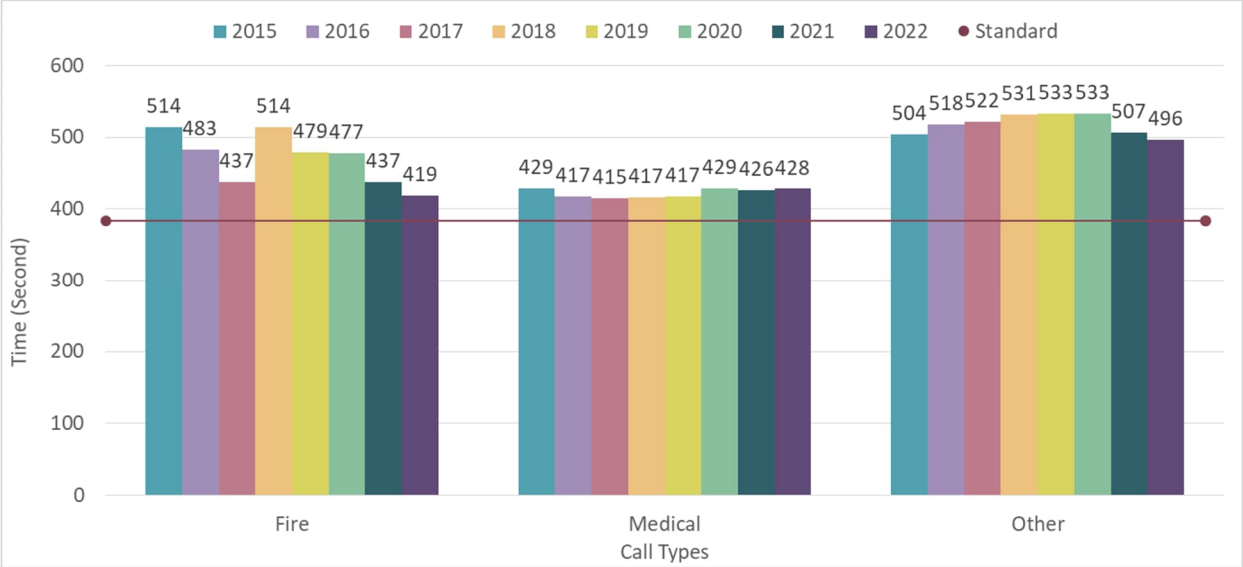
The NFPA 1710 Standard defines Total Response Time as "The time interval from receipt of the alarm at the PSAP to when the first emergency response unit is initiating action or intervening to control the incident"[58]. Within this FMP Total Response Time is measured by the sum of the following three components:

Dispatch Time + Turnout Time + Travel Time = Total Response Time

The applicable NFPA 1710 Standard performance benchmarks for these three components totals 384 seconds for 90% of the fire/explosion or other incidents the fire department responds to, and 364 seconds for the medical/resuscitation calls it responds to. Figure 17 illustrates that for the period from January 1, 2015, to December 31, 2022, the OFD Total Response Time to fire/explosion and other incidents consistently exceed the 384 second performance benchmark, and the medical calls consistently exceeded the 364 second performance benchmark.

[58] NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) Chapter 3 Definitions, Section 3.3.64.6.

Figure 17: Emergency Calls – Total Response Time (Initial Arriving Company)



Source: Oakville Fire Department Emergency Response Call Data

9.5.5 Historical Fire Suppression Emergency Response Summary

The analysis of the OFD historical fire suppression emergency response capabilities for the period from January 1, 2015, to December 31, 2022, indicates that the department is significantly exceeding the NFPA 1710 performance benchmarks for the turnout and travel times, with travel times continuing to increase with time. This is impacting the OFDs Total Response Time performance.

In our view, the identification and implementation of strategies that specifically target improvements in both the department's turnout time, which the department has the ability to influence, should be considered the first priority to improve the OFD's current Total Response Time.

9.6 Community Risk Assessment – Identified Risks/Key Findings

The CRA identifies both "Identified Risks" and "Key Findings" that should be considered as part of assessing the emergency response (fire suppression) deployment coverage within the Town. This type of risk-based analysis provides further insight to identify the Town's local needs and circumstances (as defined by the FPPA). Based on the CRA analysis and findings Group C-Residential Occupancies should be considered as the most at-risk building stock within the Town of Oakville. This occupancy type has a

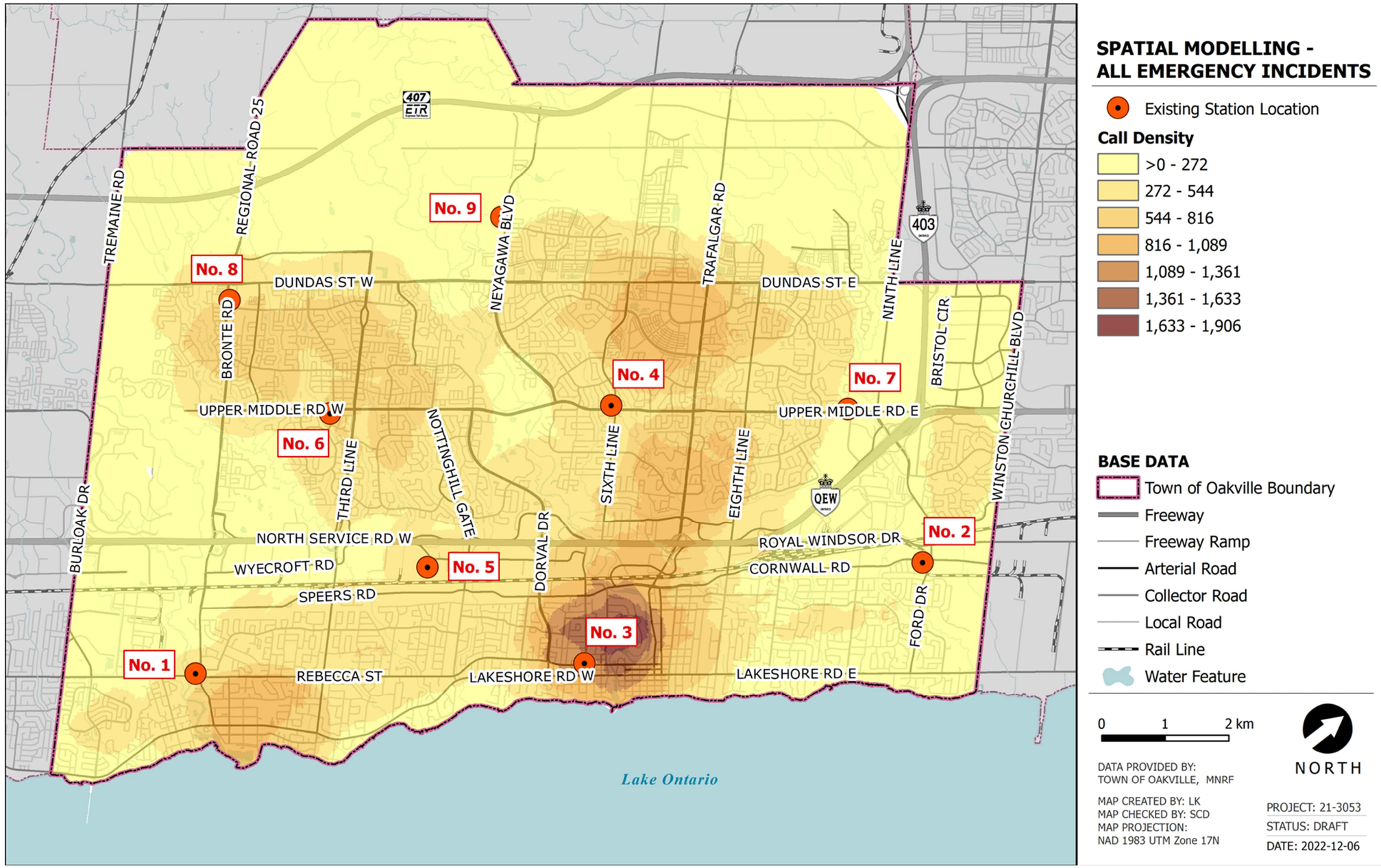
demonstrated potential for the occurrence of a fire, a fire-related injury or fatality as a result of a fire. This conclusion is supported by the following "Identified Risks" and "Key Findings" included within the CRA:

- Group C – Residential Occupancies represent 91.8% of the Town of Oakville's existing building stock, and over the five-year period from January 1, 2016, to December 31, 2020 were associated with 77.1% of the structure fires within the Town; and
- Most reported fire-related civilian injuries (25) and all fatalities (3) occurred in Group C – Residential Occupancies.

In our view, the OFD fire suppression deployment model must prioritize its emergency response deployment capabilities to identified Group C-Residential Occupancies.

The CRA also presents the results of a spatial distribution analysis of all emergency incidents that occurred within the Town from January 1, 2015, to December 31, 2021 (the dataset utilized for conducted the CRA analysis). The spatial concentration of all emergency incidents is shown in Figure 18 below. The darkest areas, representing the highest concentration of emergency incidents. The map shows a wide distribution of emergency incidents across the Town with the highest concentration in the downtown, around Fire Station 3. The Trafalgar Road corridor is another large area of high call concentration. There are pockets of areas with a high concentration of all emergency call types throughout the urban areas of the Town. Many of these areas correspond to higher density residential areas, or the Community Core Areas.

Figure 18: Spatial Concentration – All Emergency Incidents 2015 to 2021 (Source: Town of Oakville CRA)



9.7 Existing Fire Suppression Deployment Model

The Oakville Fire Department's Suppression Division consists of a complement of 240 firefighters who work on four platoons. They work on a 24-hour shift through a 28-day rotation, staffing 12 front-line emergency response vehicles deployed from the Town's nine existing fire stations that are strategically located across Oakville.

Each of the four platoons is staffed with one platoon chief, one assistant platoon chief, eleven captains, and 47 firefighters. This totals 60 per platoon and allows the OFD to sustain a minimum of 44 full-time firefighters on duty at all times. Table 22 lists the current distribution of apparatus and the existing minimum staffing levels.

Table 22: Existing OFD Fire Suppression Deployment Model

Station	Apparatus	Existing Minimum Staffing
1	Pumper P201	4
2	Pumper P202	4
3	Pumper P203	4
3	Aerial A203	3
3	Car 206	1
4	Aerial A204	4
5	Pumper P205	4
5	Rescue R205	2
6	Pumper P206	4
7	Pumper P271	4
7	Squad S207	2
8	Pumper P208	4
9	Pumper P209	4
All Stations	Total	44

9.7.1 Existing Minimum/Total Staff Complement Per Platoon

The OFD utilizes a four-platoon system to schedule suppression personnel and deliver fire suppression and emergency response services. The current Collective Agreement with the OPFFA contains several articles that relate to the operation of the current platoon system, such as rank structure, hours of work, and approved leave entitlements.

Each of the OFD's four platoons are currently staffed with a total of 58 firefighters per platoon (plus one Platoon Chief and one Acting Platoon Chief). To maintain the current level of fire suppression and emergency response services the OFD is required to maintain a minimum of 44 firefighters on duty to staff the 12 front-line apparatus and the Platoon Chief. The difference between the total complement of firefighters on each platoon (60), and the minimum number of firefighters required on-duty (44), is the current staffing buffer available to accommodate absences such as vacation, sickness, maternity and parental leaves, approved absences, and long-term leaves such as Workplace Safety and Insurance Board (WSIB), including PTSD related absences. Historically, it has taken five firefighters to maintain a minimum of four personnel on duty (i.e., the 1.25 ratio of total staff to on-duty staff).

The 1.25 ratio is based on a historical strategy within the fire service in Ontario that was utilized when hiring firefighters to staff an additional apparatus or open a new fire station. The strategy represented a hiring ratio of 1.25 firefighters for each new or additional apparatus being staffed on a full-time basis. For example, to staff a new pump with a minimum of four firefighters on duty at all times (i.e., four shifts) requires the hiring of 16 firefighters (four per shift). To accommodate absences such as vacations and sickness municipalities have historically applied a 1.25 ratio to this hiring process that when applied results in the need to hire 20 additional firefighters to staff each new apparatus.

In addition to the 1.25 ratio deficiency discussed above, municipalities are recognizing the evolution of new factors that are challenging their ability to maintain minimum on-duty firefighting staffing requirements. For example, over the past decade, significant progress has been made in recognizing the health risks associated with firefighting. O. Reg. 253/07 was developed and implemented to recognize 19 prescribed diseases that can impact the health of a firefighter. This regulation provides recognition that these diseases are job-related and can impact the health and wellness of a firefighter whether full-time, part-time or a volunteer firefighter. Fire services across the province, including the OFD, are recognizing that their staff are not immune to these diseases.

The OFD is not immune to other fire suppression staffing challenges facing fire services across Ontario. In some instances these can be directly related to collective bargaining and in other instances new and evolving legislation. For example, the information provided by the OFD indicates an increasing trend in the utilization of

maternity/parental leave. This trend is appearing in many municipalities across the GTA where there has been a positive shift in workforce diversity, and where both spouses are required to work full-time.

Collectively the deficiency of the 1.25 ratio and these new and evolving staffing challenges are having a negative impact on municipalities' abilities to sustain the required minimum number of firefighters on duty at all times. One option is to reduce the current level of fire suppression and emergency response services being provided, and thereby reduce the minimum number of firefighters required to be on duty at all times. Alternatively, municipalities are beginning to adopt a new ratio in their hiring practices that equates to adopting a new ratio of 1.33 on-staff firefighters to on-duty firefighters. For example, the Town of Vaughan recently introduced a new hiring strategy that reflects the need to hire 22 firefighters to staff an apparatus in comparison to their historical practice of hiring only 20.

It is our understanding that, in an effort to management an increasing trend in overtime costs OFD is currently staffed with a total of 60 staff per platoon, which is more than the current approved complement of 57. In order to continue to control and manage increasing overtime trends, the OFD should seek to maintain a 1.33 ratio, applied per platoon, for all future hiring. For a minimum staffing of 44 the minimum complement per platoon should be 59.

Recommendation #11: That consideration be given to adopting and sustaining a ratio of 1.33 (minimum on-duty firefighter to total complement of firefighters), applied per platoon. Applying the ratio to maintain the existing minimum staffing of 44 requires an approved minimum complement of 59 per platoon.

9.7.2 Span of Control

From a business perspective where the day-to-day activity of the Platoon Chief is to manage the non-emergency activities of their platoon, they typically fall into a supervisor type of role where they have a moderate level of individual responsibility and are guided by standard work processes and procedures. The non-emergency responsibilities of a platoon chief include but not limited to:

- Maintaining discipline of the firefighters on their platoon;
- Ensuring the maintenance of apparatus, equipment and stations are maintained in accordance to SOPs; and
- Carries out all administrative tasks related to the management of their platoon.

This is a fairly heavy task which also involves day-to-day visits to each station to meet with staff and disseminate department-related information and resolve issues where applicable.

The Platoon Chief in Oakville currently has 12 direct reports who hold the rank of Captain (including one assigned as Acting Platoon Chief).

A best practice in the business world for this level of managerial activity would have a span of control of eight to 10 direct reports.

At an emergency call where the Platoon Chief is required to be the IC at a fire or other emergency incident, best practice is covered by NFPA 1561 Standard on Emergency Services Incident Management System and Command Safety[59]. Incident command is an expandable system which the person in control of an emergency incident can use the framework to assist them in managing the emergency scene. The management of an emergency scene can be a complex issue which requires additional personnel to assist in safely managing all aspects of the emergency. The principal role of the IC in Oakville is to plan, manage and prioritize the task level assignments in an attempt to mitigate the situation, ensure incident safety, provide information to internal and external stakeholders and establish and maintain liaison with other agencies participating in the incident. The Incident management system is designed to expand and contract depending on the escalation or control of the incident. However, the IC system requires additional trained personnel to assist in the expansion of the IC system. The issue in Oakville is the availability or depth of command-capable staff at an emergency incident.

Typical industry best practice for an emergency scene span of control for an IC is between three and seven firefighters per sector due to the potential severity of the situation and life safety of the firefighters on scene. Oakville currently uses three to four firefighters per crew sector and will assign a firefighter to a sector officer to manage.

[59] As part of the ongoing standard consolidation process NFPA 1561 will be replaced with NFPA 1550 Standard for Emergency Responder Health and Safety, which is currently in draft form.

Span of control for the Platoon Chief (PC) is beyond this number, as a single IC PC is managing between five to seven sectors and sometimes more in complex calls. This creates an overwhelming situation for one person to manage at the scene. In addition to their on-scene responsibilities, the Platoon Chief is still responsible for the entire Town of Oakville for all other emergencies and activities that may be going on.

Through consultation with OFD staff, it is our understanding that the current on-duty Platoon Chief is experiencing more frequent complex calls with a larger span of control than the industry targets. This is expected to increase with Town and OFD growth.

9.8 Existing Fire Suppression Deployment Capabilities

The following sections present our analyses of the existing fire suppression/emergency response deployment capabilities of the OFD. The analysis was carried out using Geographical Information System (GIS) tools developed specifically for the purpose of assessing networks (such as road networks). Various scenarios were developed to assess the OFD existing emergency response coverage, including the Initial Arriving Company, Second Arriving Apparatus[60] and Initial Full Alarm Assignment in comparison to the applicable NFPA 1710 Standard performance benchmarks.

9.8.1 Modelling Methodology

This section provides a brief outline of the methodology and modelling procedures used to assess existing and proposed future emergency response coverage and to test various combinations of fire suppression resources.

The Network Analyst tool developed by Esri Inc. was used to create a model of the existing Town of Oakville road network, based on GIS files, provided by the Town. Relevant base road information, such as road length and road classification, was extracted from the GIS data. Planned future road information (location, alignment, etc.), provided by Town staff, was incorporated into the existing GIS network to prepare a future road. The Network Analyst tool was used to simulate the existing (and future)

[60] Second arriving apparatus measures where a second fire apparatus can respond within six minutes of travel time. The staffing, in this analysis, may be between two to four firefighters on the second apparatus. This was selected to align with the current staffing of second apparatus within the Oakville Fire Department.

emergency response fire suppression deployment capabilities of the OFD navigating the Town's road network.

The locations of the historic incident locations for all emergency calls (responded to with lights and sirens, such as structure fires, vehicle fires and medical calls representing the most consistent and expedited type of responses) for the period from January 1, 2015, to December 31, 2022, were used to calibrate the GIS-based model. To ensure our analysis excluded outliers and included calls only pertaining to fire and medical incidents, the data was filtered and organized into an appropriate format and outliers which included travel times with times less than five seconds or greater than thirty minutes (1,800 seconds) were excluded.

In order to align the model with the historic response performance of OFD, the emergency calls (i.e., incidents where the department operating guidelines require the use of all emergency lights and sirens) were added to the network and coded based on the historic travel times to reach the calls. An iterative process was applied to assess the speeds throughout the road network to calibrate the model to reflect historic travel times and emergency response performance of the first responding apparatus for all calls with an emergency response code.

Table 23 lists the posted road speeds and the modelled speeds resulting from the calibration process. The GIS roads-based model, calibrated with the modelled speeds, was used to assess the emergency response performance of the OFD against the applicable fire suppression performance benchmarks.

Table 23: Model Calibration

Posted Speed Limit (km/h)	Modelled Speed (km/h)
100	90
80	68
70	60
60	45
50	28
40	22

9.8.2 Application of NFPA Fire Suppression Deployment Targets

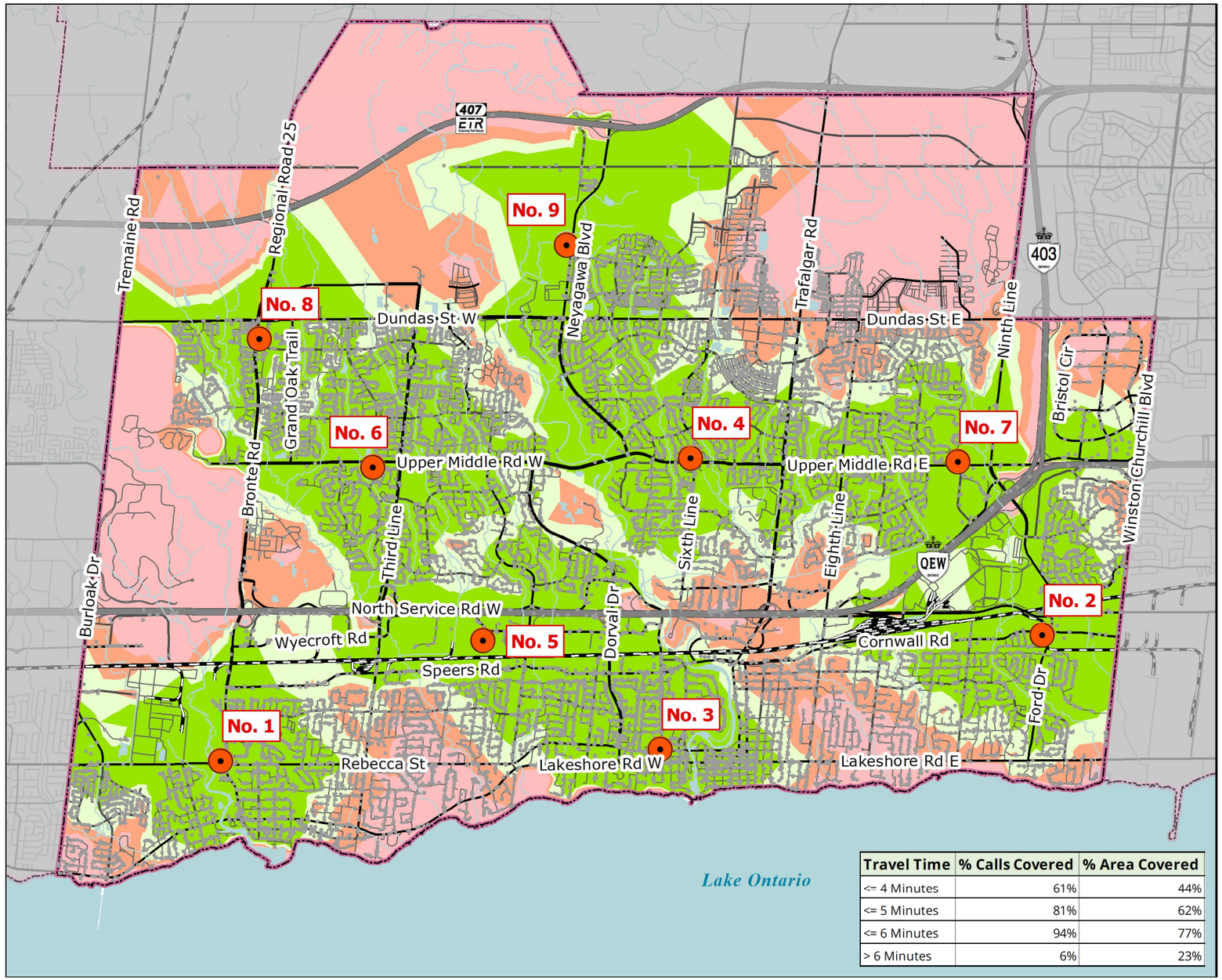
The calibrated existing and future road networks, station locations and response time targets were used to map response polygons around each fire station. These polygons represent the geographical area where the response target for the staffing level and/or specified amount of travel time is achieved within the GIS model.

9.8.3 Existing Initial Arriving Company Response Capabilities

The existing emergency response fire suppression deployment capabilities of the OFD Initial Arriving Company were assessed in comparison to the NFPA 1710 Standard performance benchmark of: four firefighters arriving on scene within a four-minute travel time to 90% of fire suppression incidents.

Figure 19 illustrates the modelled results of the existing conditions initial arriving company analysis. The bright green areas identify the locations where the model predicts an initial arriving company gets on-scene within four minutes of travel time. Based on existing conditions the mapping indicates that within a four-minute travel time the initial arriving company achieved the initial response coverage target for 44% of the Town's geographical area and 61% of the historical incidents. It should be noted that these coverages only reflect the applied NFPA four-minute travel time performance. OFD response capabilities provide coverage to the entire Town, however, the travel time exceeds four-minutes for the remainder of the Town's geographical area and historical call locations. Compared to the 2016 FMP, the geographical coverage of the initial arriving apparatus in existing conditions is reduced, and gaps are starting to show between the coverage areas of the existing stations. This includes a growing gap between Stations 2 and 3. This is a reflection of the increasing travel times experienced by OFD, which appear to be associated with increased traffic congestion as a result of growth and intensification. There are also new development areas, such as in North Oakville (northeast of the Town's area) which are not within the four-minute coverage areas of existing fire stations.

Figure 19: Existing Initial Arriving Company Response Capabilities



Travel Time	% Calls Covered	% Area Covered
<= 4 Minutes	61%	44%
<= 5 Minutes	81%	62%
<= 6 Minutes	94%	77%
> 6 Minutes	6%	23%

TOWN OF OAKVILLE

INITIAL ARRIVING COMPANY EXITING CONDITIONS

- Historic Incident (2015-2022)
- Existing Station Location

Travel Time

- 4 Minutes at Network Speed
- 5 Minutes at Network Speed
- 6 Minutes at Network Speed
- > 6 Minutes at Network Speed

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-06-30

DILLON CONSULTING

9.8.4 Existing Second Arriving Apparatus Response Capability

The NFPA 1710 Standard (2020) edition introduced a new performance benchmark for assessing the second arriving company. This standard defines a "company" as a group of members who are "usually organized and identified as engine companies, ladder companies, rescue companies, squad companies or mulita-functional companies."[61] As with the initial arriving company, the NFPA standard specifies the minimum staffing for a second arriving company is four firefighters.

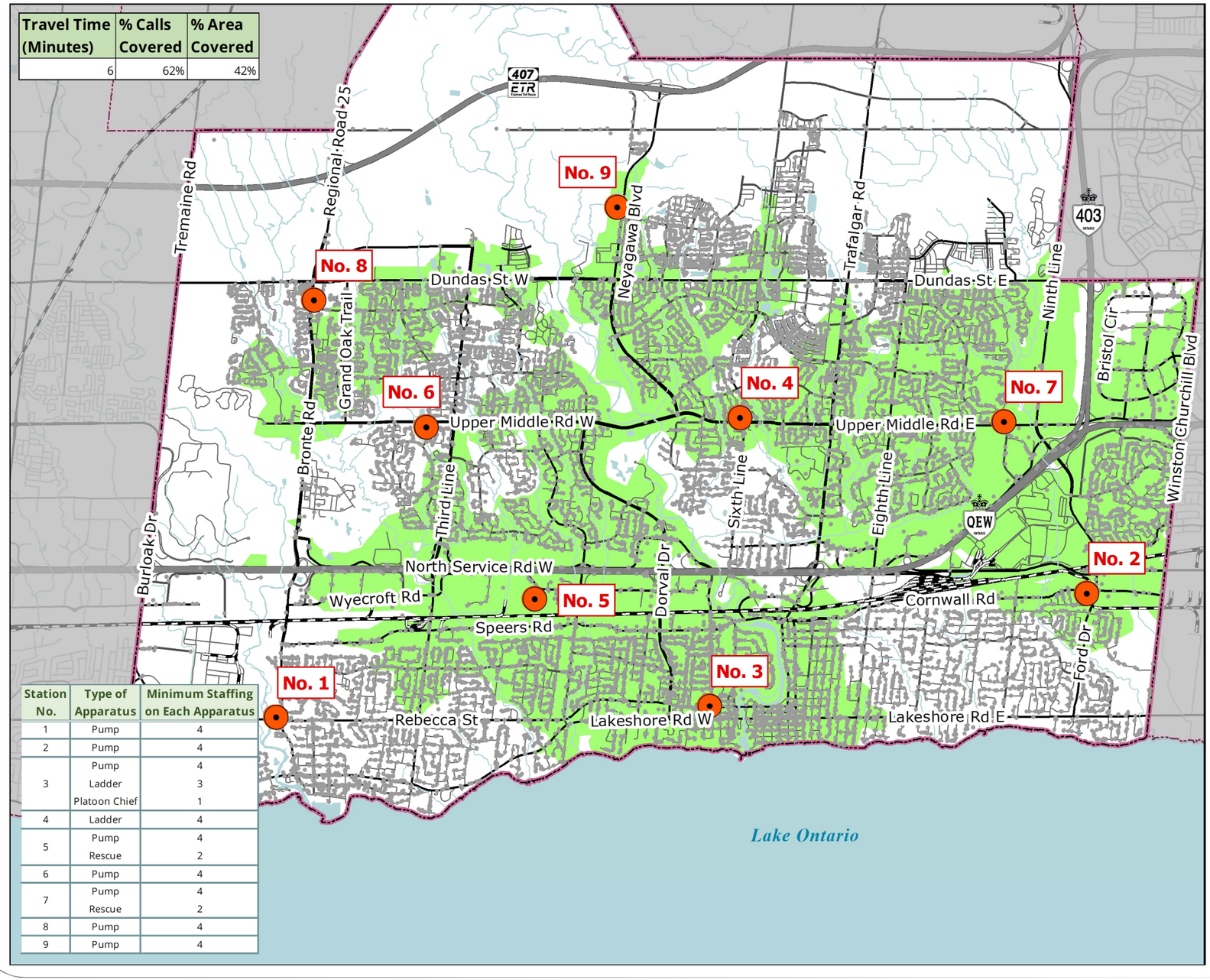
The existing emergency response fire suppression deployment capabilities of the OFD for the Second Arriving Company were assessed in comparison to the NFPA 1710 Standard performance benchmark of "A second arriving company with a minimum of four firefighters arriving on scene within a six-minute travel time to 90% of fire suppression incidents." For the purposes of assessing OFD's performance this analysis assessed the Second Arriving Apparatus, including those staffed with a minimum of two or three firefighters, as well as those staffed with a minimum of four.

Each of the nine existing fire stations operates a front-line apparatus staffed with four firefighters. Station 3 includes a PC and an aerial staffed with a minimum of three firefighters. Stations 5 and 7 operate rescues staffed with a minimum of two firefighters. Under existing conditions no OFD stations operate a second apparatus with a minimum staffing of four firefighters, however, when the on-duty staff is available, apparatus staffing of levels of the aerial apparatus at Station 3 and the two rescues (Stations 5 and 7) will operate above the minimums, and may achieve a company of four firefighters. Figure 20 illustrates the results that within six minutes of travel time the Second Arriving Apparatus is able to provide emergency response coverage to 42% of the Town's area and 62% of the historical emergency incidents (January 1, 2015, to December 31, 2022).

It should be noted that these coverages only reflect the applied NFPA six-minute travel time performance, and that the current OFD response capabilities exceed the six-minute travel time for the remainder of the Town's geographical area and historical call locations.

[61] NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition) Chapter 3, Definitions, 3.3.15.

Figure 20: Existing Second Arriving Apparatus Response Capabilities



9.8.5 Initial Full Alarm Assignment

The analysis of the OFD existing Initial Full Alarm Assignment response capabilities were assessed in comparison to the applicable NFPA 1710 Standard for the following:

- Single-Family Dwelling Initial Full Alarm Assignment: The applicable NFPA 1710 fire suppression deployment model for an initial full alarm assignment to a single-family dwelling includes a minimum deployment of 16 firefighters (17 if an aerial device is used) arriving on scene within an eight-minute (480 second) travel time to 90% of the fire suppression incidents in this occupancy type; and
- Apartment Initial Full Alarm Assignment: The applicable NFPA 1710 fire suppression deployment model for an initial full alarm assignment to an apartment includes a minimum deployment of 25 firefighters (26 if an aerial device is used) arriving on scene within an eight-minute (480 second) travel time to 90% of the fire suppression incidents in this occupancy type. This deployment model is the same for an Open-Air Strip Shopping Centre.

It is important to note that the current OFD fire suppression deployment model includes the staffing of two aerial apparatus. One of these aerials would be automatically deployed, functioning as a pumper truck, to a fire suppression incident involving these types of occupancies. As such, our analysis of these performance benchmarks focuses on the deployment of 16 firefighters being deployed to single-family dwellings, and 25 firefighters being deployed to apartments.

9.8.5.1 Existing Initial Full Alarm Assignment Response Capabilities

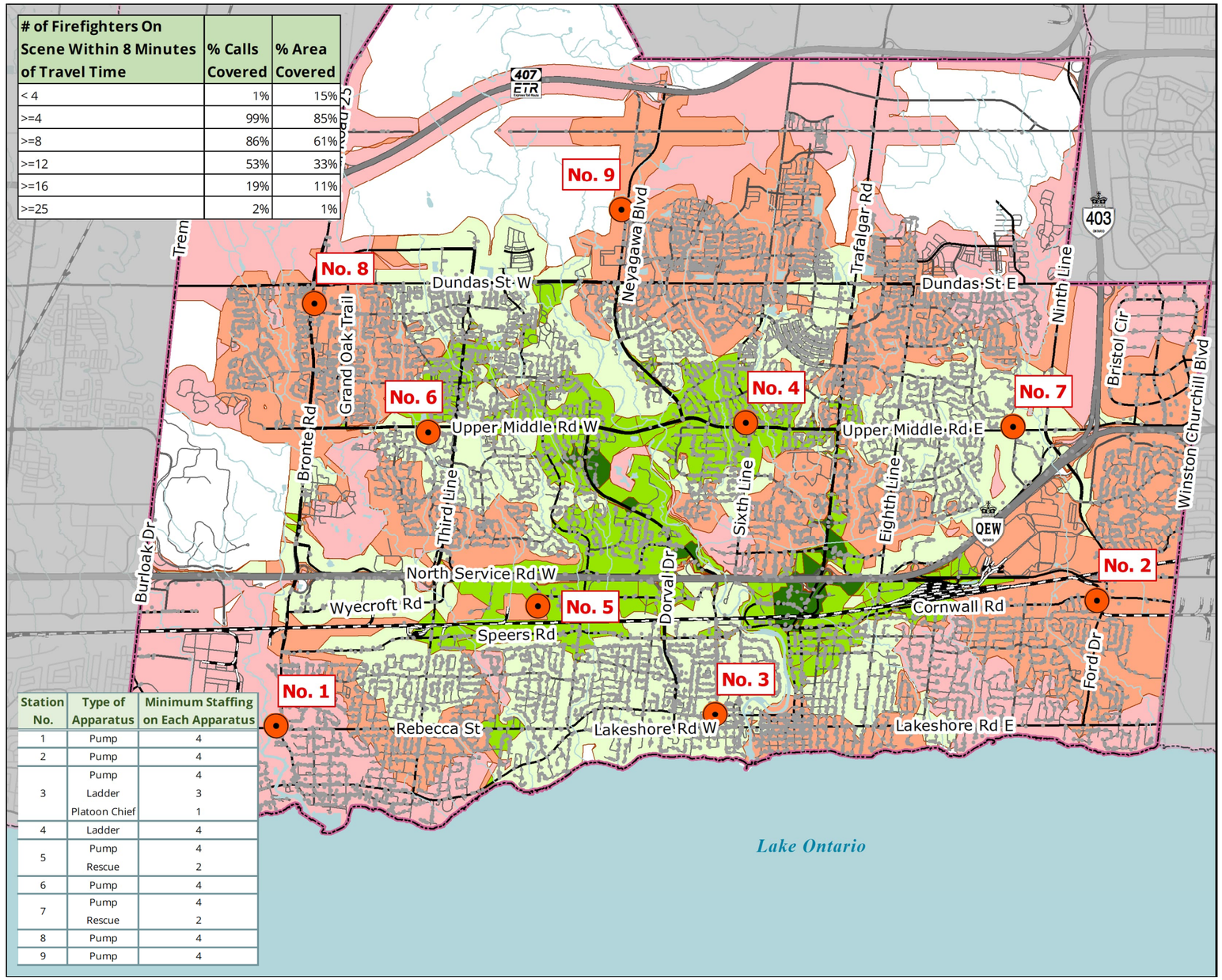
Figure 21 illustrates the OFD's existing capabilities to deploy an Initial Full Alarm Assignment of 16 firefighters (the staffing benchmark for a Single-Family Dwelling) within an eight-minute travel time, shown in bright green. Under existing conditions, the OFD can currently meet this performance measure for 19% of historical calls (January 1, 2015, to December 31, 2022) and 11% of the Town's geographical area.

It should be noted that these coverages only reflect the applied NFPA eight-minute travel time performance, and that the current OFD response capabilities exceed the eight-minute travel time for the remainder of the Town's geographical area and historical call locations.

Under existing conditions, the OFD is unable to assemble 25 firefighters (the staffing benchmark for open-air strip shopping centers or three-storey garden style apartment buildings) on scene within an eight-minute travel time to 1% of Town's area and 2% of the historical calls. These areas are shown in dark green in the figure below.

It should be noted that these coverages only reflect the applied NFPA eight-minute travel time performance, and that the current OFD response capabilities exceed the eight-minute travel time for the remainder of the Town's geographical area and historical call locations.

Figure 21: Existing Initial Full Alarm Assignment Response Capabilities



# of Firefighters On Scene Within 8 Minutes of Travel Time	% Calls Covered	% Area Covered
< 4	1%	15%
>=4	99%	85%
>=8	86%	61%
>=12	53%	33%
>=16	19%	11%
>=25	2%	1%

Station No.	Type of Apparatus	Minimum Staffing on Each Apparatus
1	Pump	4
2	Pump	4
3	Pump	4
	Ladder	3
	Platoon Chief	1
4	Ladder	4
5	Pump	4
	Rescue	2
6	Pump	4
7	Pump	4
	Rescue	2
8	Pump	4
9	Pump	4

TOWN OF OAKVILLE

INITIAL FULL ALARM ASSIGNMENT EXITING CONDITIONS

- Historic Incident (2015-
- Existing Station Location

Number of Staff On Scene within 8 Minutes of Travel Time

- ≥ 4 Firefighters
- ≥ 8 Firefighters
- ≥ 12 Firefighters
- ≥ 16 Firefighters
- ≥ 25 Firefighters

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-07-04

9.8.6 Existing High-Rise Initial Full Alarm Assignment Capabilities

The NFPA 1710 Standard includes a performance benchmark for high-rise buildings described as having the highest floor greater than 75 feet (23 metres) above the lowest level of fire department vehicle access. The applicable deployment model for the OFD would include an initial minimum deployment of 38 firefighters (39 firefighters if the building is equipped with a fire pump) arriving on scene within a 10 minute and 10 second (610 second) travel time to 90% of the fire suppression incidents in this occupancy type.

The existing fire suppression deployment model of the OFD includes a minimum staffing level of 44 firefighters on duty at all times across all nine combined stations. Achieving 38 firefighters on-scene would require the deployment of nearly all the fire apparatus and staffing resources within the Town. The OFD can assemble more than its current minimum staffing of 44 firefighters on scene through use of the Regional Mutual Aid Agreement and the emergency call back process for off duty firefighters. As discussed in Section 9.8.5.1 Existing Initial Full Alarm Assignment, achieving 25 firefighters within eight minutes of travel time is a challenge for the department under existing conditions. Therefore, the high-rise response of 38 firefighters in 10 minutes was not modelled under existing conditions.

In our experience, it is not uncommon for municipalities similar to the Town of Oakville to find it challenging to assemble 38 or more firefighters to respond to a fire in a high-rise building as defined by the NFPA 1710 Standard. As a result, it is important that municipalities, like Oakville, prioritize the application of the first two lines of defence by applying proactive fire inspections, fire code enforcement and public education programs that specifically target high-rise buildings.

Regularly scheduled, routine inspections of high-rise buildings will ensure that fire safety features required by the Ontario Fire Code are maintained and operational. Such fire safety features include:

- Building Services (ventilation, firefighter elevators, water supply, etc.);
- Non-combustible construction (concrete and steel);
- Interior finishes (drywall, block, concrete slab);
- Fire detection and notification of occupants (pull stations, heat detectors, smoke detectors, alarm system);

- Compartmentation (containment of fire and smoke spread, fire doors, fire shutters, self-closing mechanisms on doors, etc.);
- Means of egress (stairwells constructed with non-combustibles); and
- Fire protection systems (automatic sprinklers, standpipes and hose cabinets, fire pumps, fire extinguishers, etc.).

9.8.7 Existing Fire Suppression Deployment Capabilities Summary

Table 24 provides a summary of the existing conditions emergency response capabilities of OFD. Applying the principle of 'continuous improvement' (alignment with Fire Strategic Goal 3, Section 3.4.1), the analysis and scenarios tested under future conditions will aim to improve from these existing coverage levels.

Table 24: Summary of Existing Conditions Response Capabilities

Scenario	Minimum Staffing Level	Initial Arriving Company (4 firefighters arriving on-scene in 4 minutes or less 90% of the time)	Second Arriving Apparatus (8 firefighters arriving on-scene in 6 minutes or less 90% of the time)	Initial Full Alarm Assignment (16 firefighters arriving on-scene in 8 minutes or less 90% of the time)	Urban Area Initial Full Alarm Assignment (25 firefighters arriving on-scene in 8 minutes or less 90% of the time)
Existing Conditions	44	44% of Area 61% of Calls	42% of Area 62% of Calls	11% of Area 19% of Calls	1% of Area 2% of Calls

9.9 Future Growth Considerations

The OFD has a demonstrated history of proactively planning for growth through the completion of past FMPs. This has included the recent planning and implementation of Stations 8 and 9 to service growth in North Oakville. This current FMP provides an opportunity to recast fire service needs related to growth within the current planning context.

At the time of writing, the Province is proposing a generational change to the planning policy framework in Ontario. Municipalities are navigating a shift in planning governance, legislation and simultaneous pressure from the Province to increase the supply of housing in the name of housing affordability. All these changes are being navigated by Town staff while continuing progress on the Official Plan Review.

This section of the FMP reviews the magnitude, location, and type of future growth for the Town of Oakville with a focus on the 2031 horizon. To understand this growth, Dillon consulted with Town planning staff, and reviewed the Town of Oakville Official Plan (OP) (Office Consolidation August 31, 2021), the North Oakville East Secondary Plan (March 2023 Consolidation), the North Oakville West Secondary Plan, and the August 15, 2023, report to Council on the Joint Best Planning Estimates.

The following subsections provide an overview of projected growth as it pertains to urban structure, greenfield development, and strategic growth areas to 2031.

9.10 Urban Structure

Growth in Oakville is informed by the Region of Halton Official Plan (ROP). The ROP – most recently updated through Regional Amendments #48 and #49 – establishes an urban structure for the Region, provides direction on growth management including intensification areas, as well as growth forecasts for population and employment to 2051.[62]

In turn, the Town of Oakville has an established urban structure which was adopted by Oakville Council in September 2017 and in full force and effect as of July 2021. The urban structure for the Town of Oakville is found in Figure 22 (Schedule A1 of the OP).

This structure reflects how the Town is intended to accommodate growth of people and jobs over the long term. The Town of Oakville is forecast to grow to 444,000 residents and 212,788 jobs by 2051, effectively doubling its population over the next three decades.[63] The Joint Best Planning Estimates also provide allocation of growth for the 2031, and 2041 growth horizons for greenfield areas, established neighborhoods, and strategic growth areas.

By 2031, the population is forecast to grow to 259,939 people (+39,796 people) and 147,198 jobs (+35,359 jobs). The location of employment growth is in part directed to the designated Employment areas found along the QEW, Highway 403, and Highway 407. Consistent with the planned urban structure, the majority of the forecast growth will be accommodated through intensification in Strategic Growth Areas as well as designated greenfield areas in North Oakville.

---

[62] It is acknowledged that during the time of reporting and analysis for this FMP there are ongoing Provincial and municipal legislative changes and discussion related to the approval of Regional official plans and conformity (e.g., Bill 150). At this time, these changes are not anticipated to impact the growth assumptions discussed for the purposes of this Fire Master Plan. However, as a best practice, the timing and location of growth should be monitored as part of implementation of this FMP.

[63] From the August 15, 2023, report to Council on the Joint Best Planning Estimates from Table 3 on page 8 of the report. These numbers are draft and subject to change and refinement. However, future refinements are anticipated to be minor.

9.11 Strategic Growth Areas

There are 12 Strategic Growth Areas (SGAs) in the Town of Oakville, most of which are forecast to accommodate some combination of both population and employment growth. The location of the Strategic Growth Areas can be found in Figure 23 and information on their forecast growth and horizons can be found in Figure 24. Of these 12 growth areas, two are forecast to accommodate the most growth to 2031: the Midtown Urban Growth Centre and Trafalgar Urban Core South (located in North Oakville). Respectively they are forecast to increase by 11,071 and 14,526 people for a total of 11,710 people in Midtown and 18,168 in Trafalgar Urban Core South. Most of the remaining SGAs are forecast for an additional 1,000 to 2,800 people each from 2021 to 2031.[64] The built form in these areas will reflect mid-rise and high-rise development. Recent development proposals reflect high-rise development in both the Trafalgar Urban Core (30 plus storeys) and Midtown (40 and 50 plus storeys). This reflects a continued transition in built form for the Town of Oakville, with greater concentrations of high-rise structures and taller high-rise buildings, that will have an impact on fire department operations as the Town continues to grow and intensify.

9.12 North Oakville

Secondary Plans for the greenfield lands in North Oakville East and West were completed in 2009. The current in force and in effect land use for North Oakville East is shown in Figure 25 per the Secondary Plans. North Oakville East contains the Trafalgar Urban Core, the Neyagawa Urban Core, and the Dundas Urban Core Strategic Growth Areas reflecting higher density growth as well as lower density growth in designated neighborhoods areas. There are also employment districts south of Highway 407.

The current in force and in effect land use for North Oakville West is shown in Figure 25. The lands not within a natural heritage system or community park area in North Oakville West are designated as Employment District.

A North Oakville Secondary Plans Review was initiated in May 2017 and is currently a part of the ongoing Official Plan Review. It is intended that through this process these

[64] Based on an analysis of the population and employment forecast data provided in Table 3 on page 8 of the August 15, 2023 report to Council on the Joint Best Planning Estimates.

documents would be integrated so that there is one Official Plan document for the Town. It is possible that as part of this review there may be changes to land use designations.

Per the Joint Best Planning Estimates, of the growth that is not in a SGA, it is forecast that by 2051 North Oakville will be home to 58,699 people and 5,562 jobs. By 2031, the population is forecast to grow to 39,735 people and 3,020 jobs (+23,170 people and +2,563 jobs) outside of the SGA. For the purposes of this FMP, most of this growth to 2031 is anticipated to be located southwest of Sixth Line and Burnhamthorpe and northeast of Trafalgar Road and Dundas Street East as shown in Figure 27.

Monitoring the timing and location and growth is important as part of implementation of this FMP.

Figure 22: Town of Oakville Urban Structure (Schedule A1 Livable Oakville Plan)

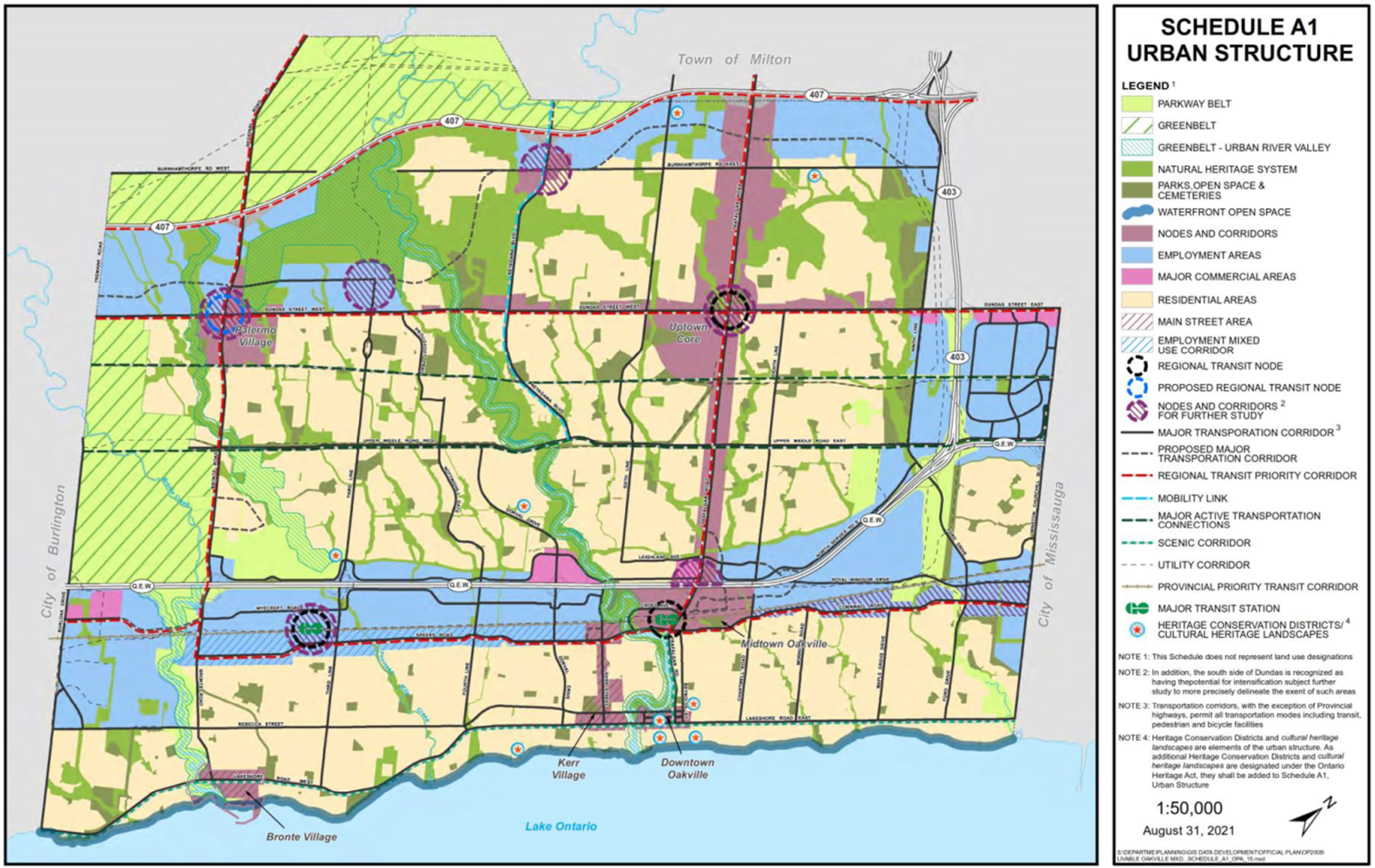


Figure 23: Joint Best Planning Estimates – Oakville Policy Areas

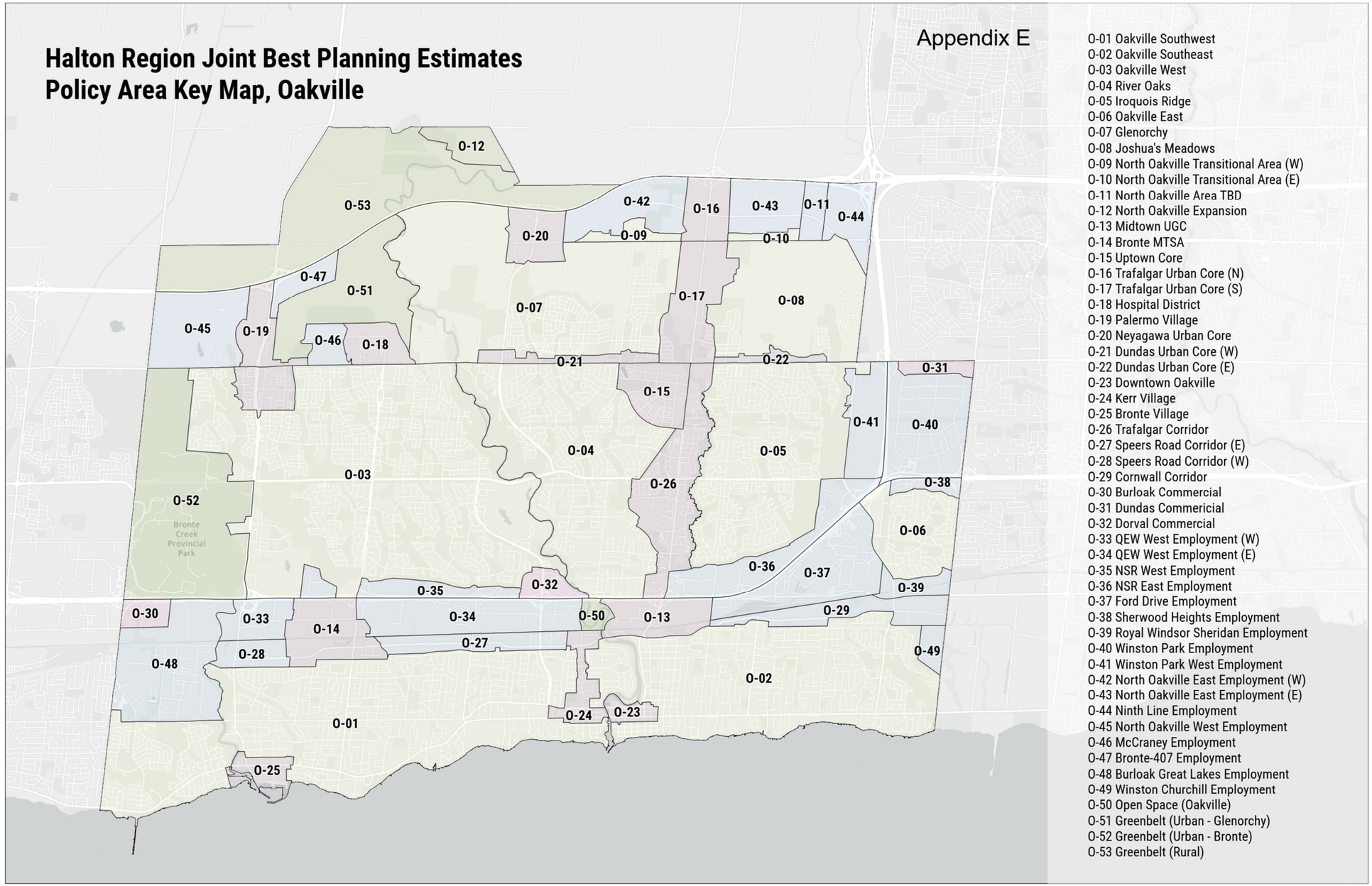


Figure 24: Oakville DRAFT Population and Employment Forecast by Strategic Growth Area

Appendix B

Oakville DRAFT Population and Employment Forecast by Strategic Growth Area

based on draft Joint Best Planning Estimates v3.02_refined

Town of Oakville

year	people	jobs	ppl+jobs
2031	295,939	147,198	443,137
2041	378,469	183,555	562,024
2051	444,000	212,788	656,788

Dundas Urban Core (W)

year	people	jobs	ppl+jobs
2031	3,614	1,876	5,490
2041	5,365	2,571	7,936
2051	7,107	3,198	10,305

Neyagawa Urban Core

year	people	jobs	ppl+jobs
2031	2,984	367	3,351
2041	6,542	754	7,296
2051	10,500	1,176	11,676

Trafalgar Urban Core (N)

year	people	jobs	ppl+jobs
2031	4	0	4
2041	8,151	1,746	9,897
2051	17,673	3,817	21,491

Trafalgar Urban Core (S)

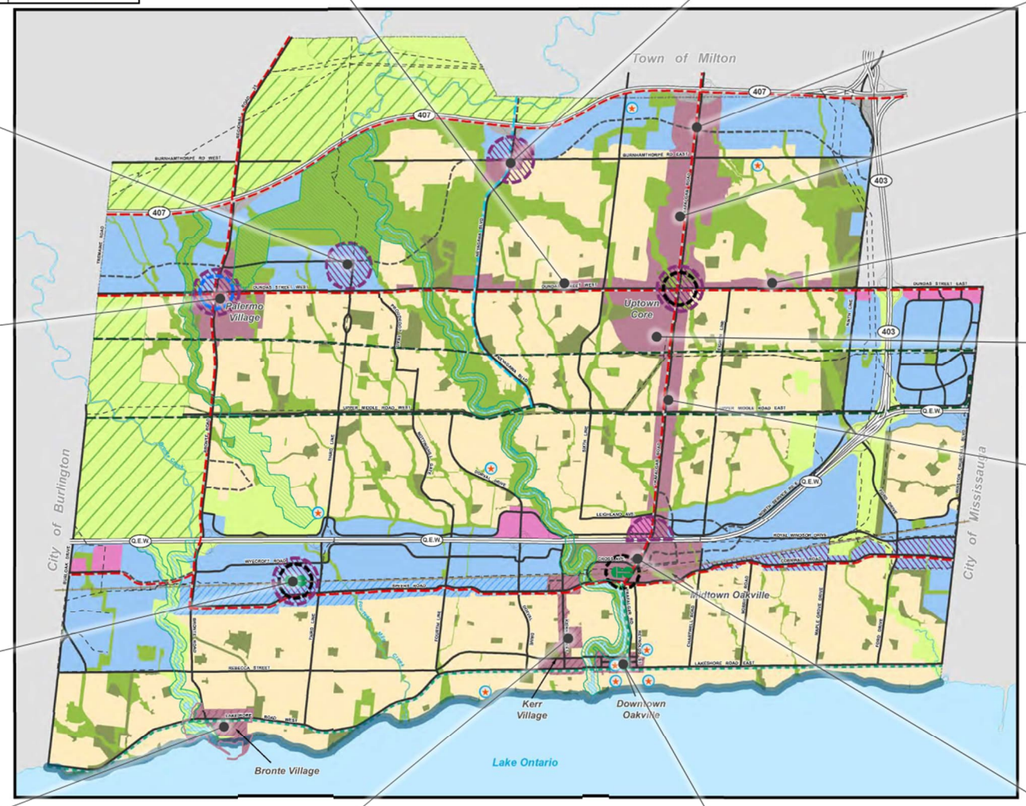
year	people	jobs	ppl+jobs
2031	18,168	1,416	19,584
2041	31,378	6,891	38,269
2051	45,082	10,127	55,209

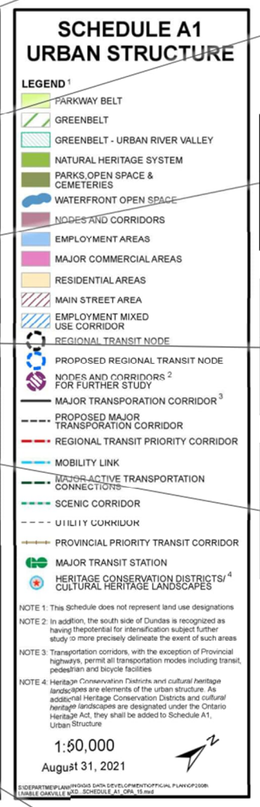
Hospital District

year	people	jobs	ppl+jobs
2031	1,034	5,829	6,863
2041	2,372	6,692	9,064
2051	4,062	7,232	11,294

Palermo Village

year	people	jobs	ppl+jobs
2031	6,740	2,661	9,401
2041	13,176	3,576	16,752
2051	19,634	4,715	24,349





Dundas Urban Core (E)

year	people	jobs	ppl+jobs
2031	1,072	248	1,320
2041	2,217	466	2,683
2051	3,352	653	4,005

Uptown Core

year	people	jobs	ppl+jobs
2031	9,384	4,506	13,890
2041	12,098	6,195	18,293
2051	14,404	7,803	22,207

Trafalgar Corridor

year	people	jobs	ppl+jobs
2031	10,257	7,754	18,011
2041	14,067	8,756	22,823
2051	17,826	9,570	27,396

Bronte GO (Major Transit Station Area)

year	people	jobs	ppl+jobs
2031	609	1,456	2,065
2041	1,990	2,779	4,769
2051	4,555	5,349	9,904

Bronte Village

year	people	jobs	ppl+jobs
2031	3,653	1,356	5,009
2041	4,360	1,618	5,978
2051	5,053	1,891	6,944

Kerr Village

year	people	jobs	ppl+jobs
2031	6,985	2,660	9,645
2041	8,663	3,012	11,675
2051	10,893	3,374	14,267

Downtown Oakville

year	people	jobs	ppl+jobs
2031	1,678	2,539	4,217
2041	2,706	2,995	5,701
2051	2,966	3,198	6,164

Midtown Oakville (Urban Growth Centre)

year	people	jobs	ppl+jobs
2031	11,710	7,376	19,086
2041	24,140	12,801	36,941
2051	32,472	17,268	49,740

Figure 25: North Oakville East of 16 Creek Land Use Plan (Figure NOE 2 – North Oakville East of 16 Mile Creek Secondary Plan)

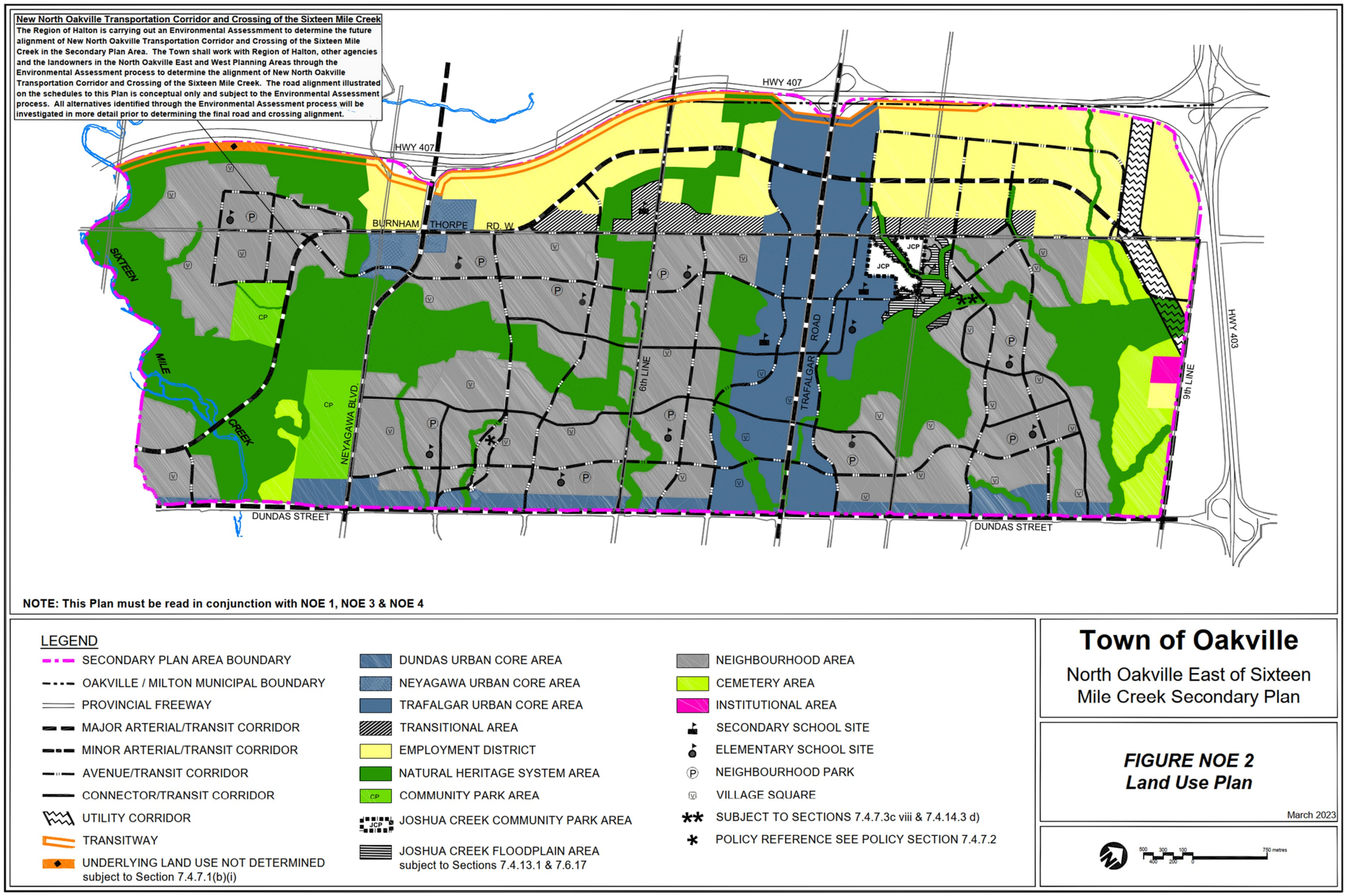


Figure 26: North Oakville East of 16 Creek Land Use Plan (Figure NOTE 2 – North Oakville East of 16 Mile Creek Secondary Plan)

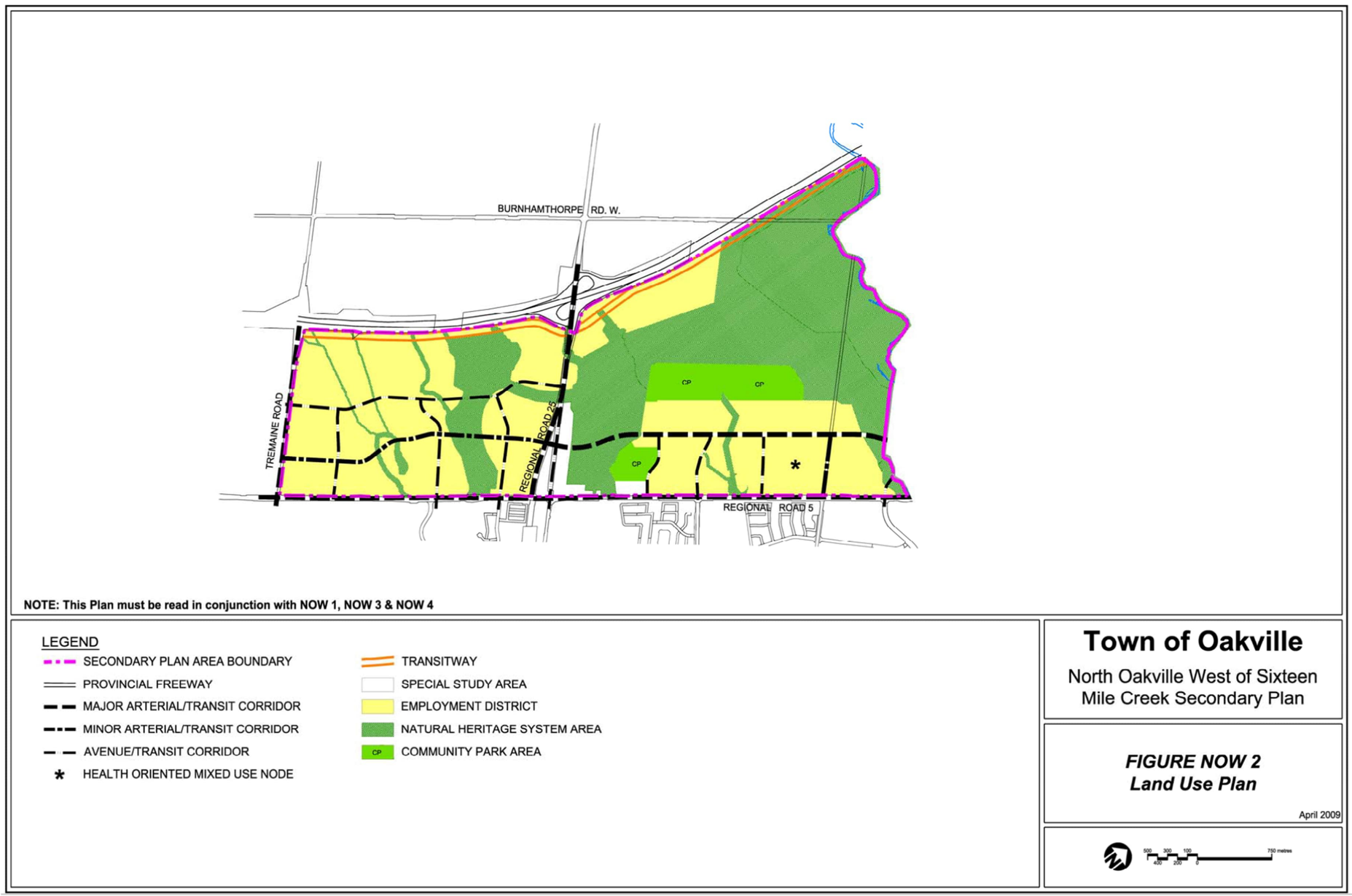


Figure 27: Concentration of Residential Units Currently Under Review to February 2023, Town of Oakville

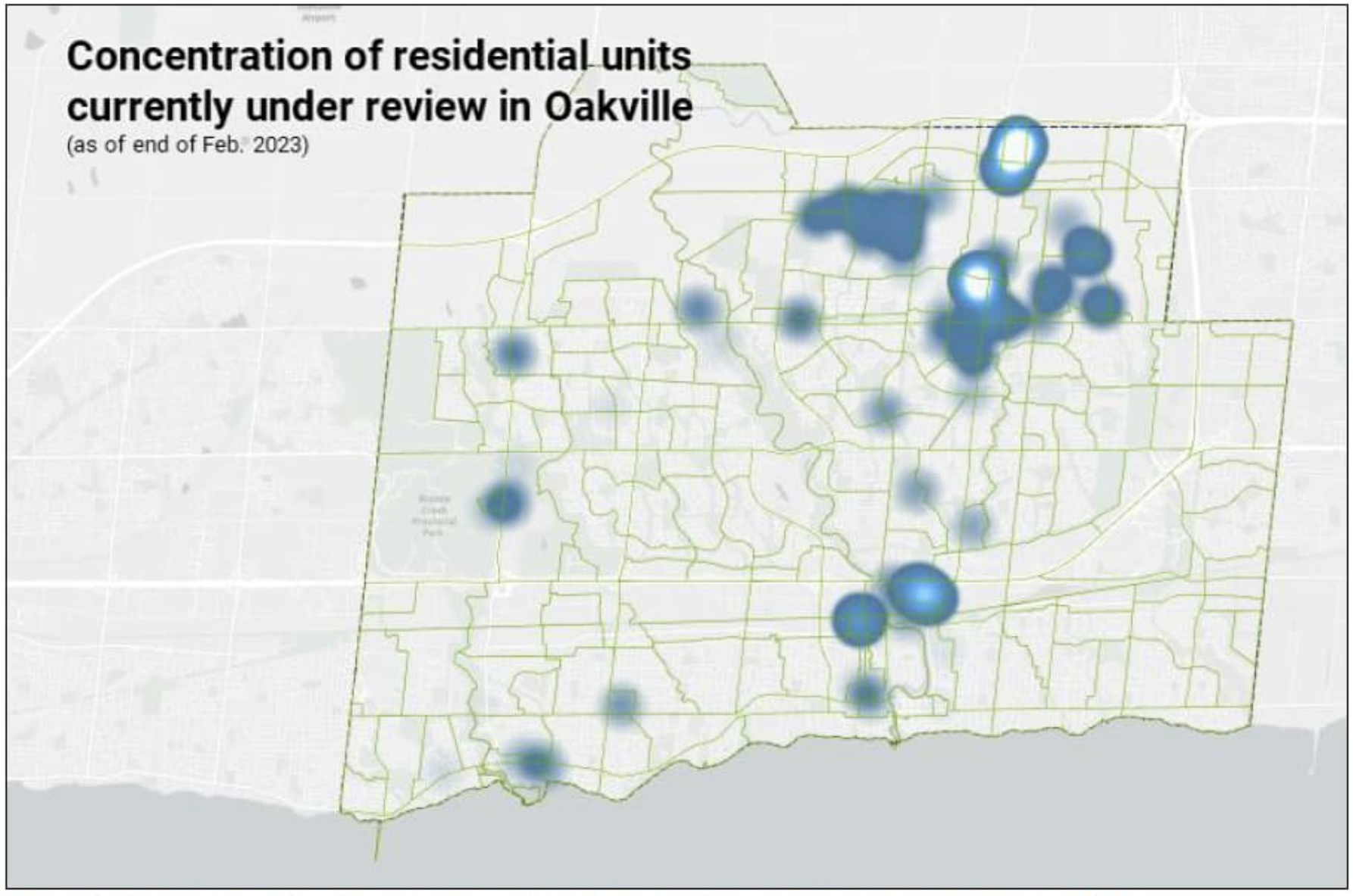


Figure 1 - Heat map of development applications under review in Oakville, as of February 2023.

9.13 Future Fire Suppression Deployment – Future Baseline Capabilities

The future growth and development conditions, including planned future roads (shown as purple lines in the figures below), were applied to the existing conditions GIS-based model to prepare a future conditions GIS-based model.

9.13.1 Future Baseline Scenario – Future Conditions

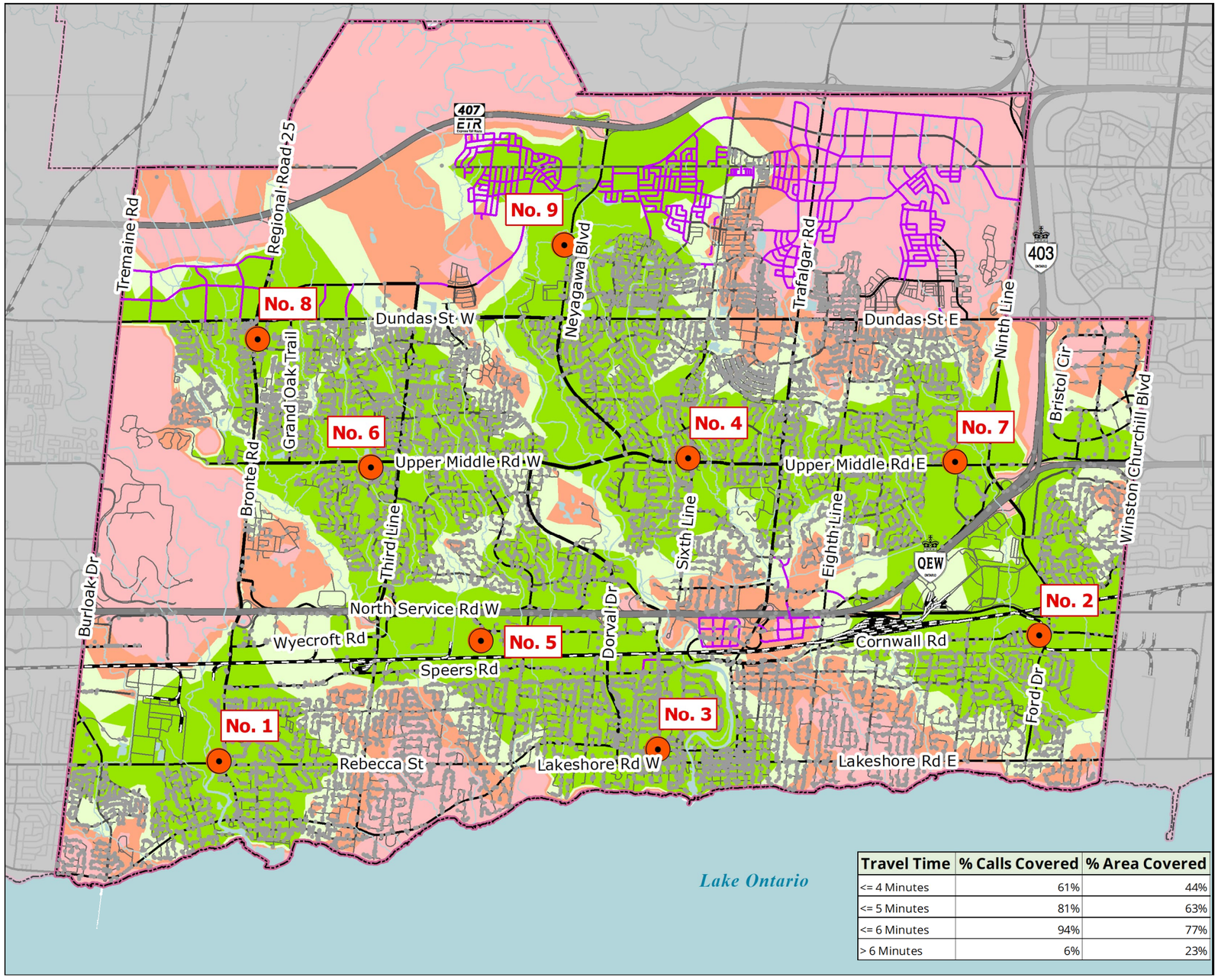
The Future Baseline Scenario assesses the performance of the existing stations, staffing and apparatus of the OFD under the future conditions of new roads and planned future growth and development. This scenario provides the future baseline from which to measure other future scenarios against, ensuring an 'apples to apples' comparison.

9.13.2 Future Baseline Initial Arriving Company

Figure 28 illustrates the Initial Arriving Company capabilities of the OFD under the Future Baseline Scenario, which includes identified future development areas and the associated planned future road network (shown in purple).

The mapped results identify that OFD is predicted to deploy an Initial Arriving Company to 44% of the Town's area, covering 62% of the historical emergency incidents (from 2015 to 2022) within four minutes of travel time. The future baseline results show the same percentage of area and historical call coverage for the initial arriving company coverage as the existing condition results; however, the new development areas are largely uncovered under this measure. We also can't predict the exact location of future calls for service, but it is expected that the future developments will generate calls that are outside of the existing four-minute response time. The Future Baseline Conditions highlight additional gaps in service compared to existing conditions, such as North Oakville and the Midtown area.

Figure 28: Future Baseline Initial Arriving Company



Travel Time	% Calls Covered	% Area Covered
<= 4 Minutes	61%	44%
<= 5 Minutes	81%	63%
<= 6 Minutes	94%	77%
> 6 Minutes	6%	23%

TOWN OF OAKVILLE

INITIAL ARRIVING COMPANY FUTURE BASELINE

- Historic Incident (2015-2022)
- Existing Station Location
- Future Road

Travel Time

- 4 Minutes at Network Speed
- 5 Minutes at Network Speed
- 6 Minutes at Network Speed
- > 6 Minutes at Network Speed

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-10-16

9.13.3 Future Baseline Second Arriving Apparatus

Figure 29 maps the Second Arriving Apparatus capabilities of the OFD in the Future Baseline Scenario. The analysis indicates that, under future conditions, OFD will be able to deploy a second apparatus to 42% of the Town's area and 62% of the historical emergency incidents (from January 1, 2015, to December 31, 2022). Again, these percentages of area coverage are the same coverage as under existing conditions, however the gap in the need for services will be increased in the future as a result of the growth and development highlighted by the future roads in the maps below.

9.13.4 Future Baseline Initial Full Alarm Assignment

Figure 30 illustrates the initial full alarm assignment capabilities of the OFD under future baseline conditions. The analysis indicates that the OFD is predicted to deploy an Initial Full Alarm Assignment (including 16 firefighters within an eight-minute travel time) to 11% of the Town's area and 19% historical emergency calls (from January 1, 2015, to December 31, 2022). Although this reflects the same percentage coverage as under existing conditions, the future growth areas are increasing the gap in the need for services and future demands for services (e.g., emergency calls) are anticipated to be generated in the future development areas, shown as future road in the mapping. Under future baseline conditions (as in existing conditions), the OFD is able to assemble 25 firefighters on scene within an eight-minute travel time to 1% of Town's area and 2% of the historical calls.

9.13.5 Future Baseline Fire Suppression Deployment Capabilities Summary

Table 25 summarizes the results of future baseline scenario response capabilities analysis presented in the sections above. It compares the existing conditions, including current stations, staffing and apparatus, to the performance of OFD under the future conditions that represent planned future roads and growth/development, with the existing stations, staffing and apparatus.

It is important to note that we do not have locations of emergency incidents that will occur as future calls. We rely on the analysis of Town area and historical call coverage and the mapped growth areas to assess future coverage. There is planned growth in greenfield developments in northeast Oakville, including along Trafalgar Road, that will result in an increase in calls for service in this geography. It is not covered by the initial

arriving apparatus in four minutes under existing conditions, and there are no existing calls in this area, so the percentages of response coverage do not highlight the future gap in service needs that will result from growth and development. As North Oakville builds out the calls for service in the area will increase and, as a result, the coverage will decrease.

Similarly, the significant increase in Midtown area development will result in an increase in calls to this area, which is also not well covered by the initial arriving apparatus within four minutes of travel time. This too will lead to a decrease in coverage of future calls. Although the percentage coverage results for the future baseline results appear the same as existing conditions, they actually represent a future of increased need and decreased service capacity compared to the performance benchmarks assessed in this FMP.

Table 25: Summary of Future Baseline Scenario Response Capabilities

Scenario	Minimum Staffing Level	Initial Arriving Company (4 firefighters arriving on-scene in 4 minutes or less 90% of the time)	Second Arriving Apparatus (8 firefighters arriving on-scene in 6 minutes or less 90% of the time)	Initial Full Alarm Assignment (16 firefighters arriving on-scene in 8 minutes or less 90% of the time)	Urban Area Initial Full Alarm Assignment (25 firefighters arriving on-scene in 8 minutes or less 90% of the time)
Existing Conditions	44	44% of Area 61% of Calls	42% of Area 62% of Calls	11% of Area 19% of Calls	1% of Area 2% of Calls
Future Baseline	44	44% of Area 61% of Calls	42% of Area 62% of Calls	11% of Area 19% of Calls	1% of Area 2% of Calls

Figure 29: Future Baseline Second Arriving Apparatus

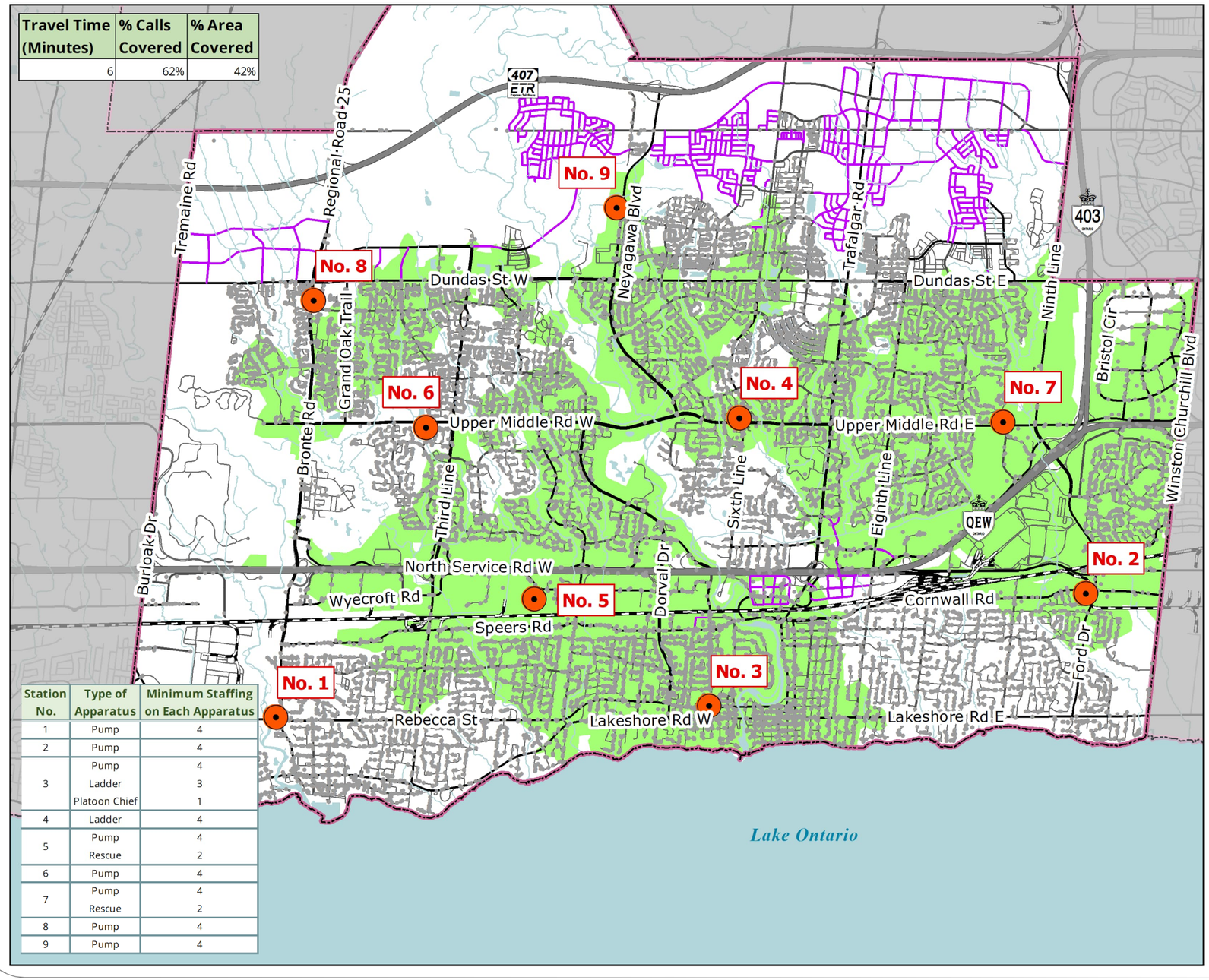
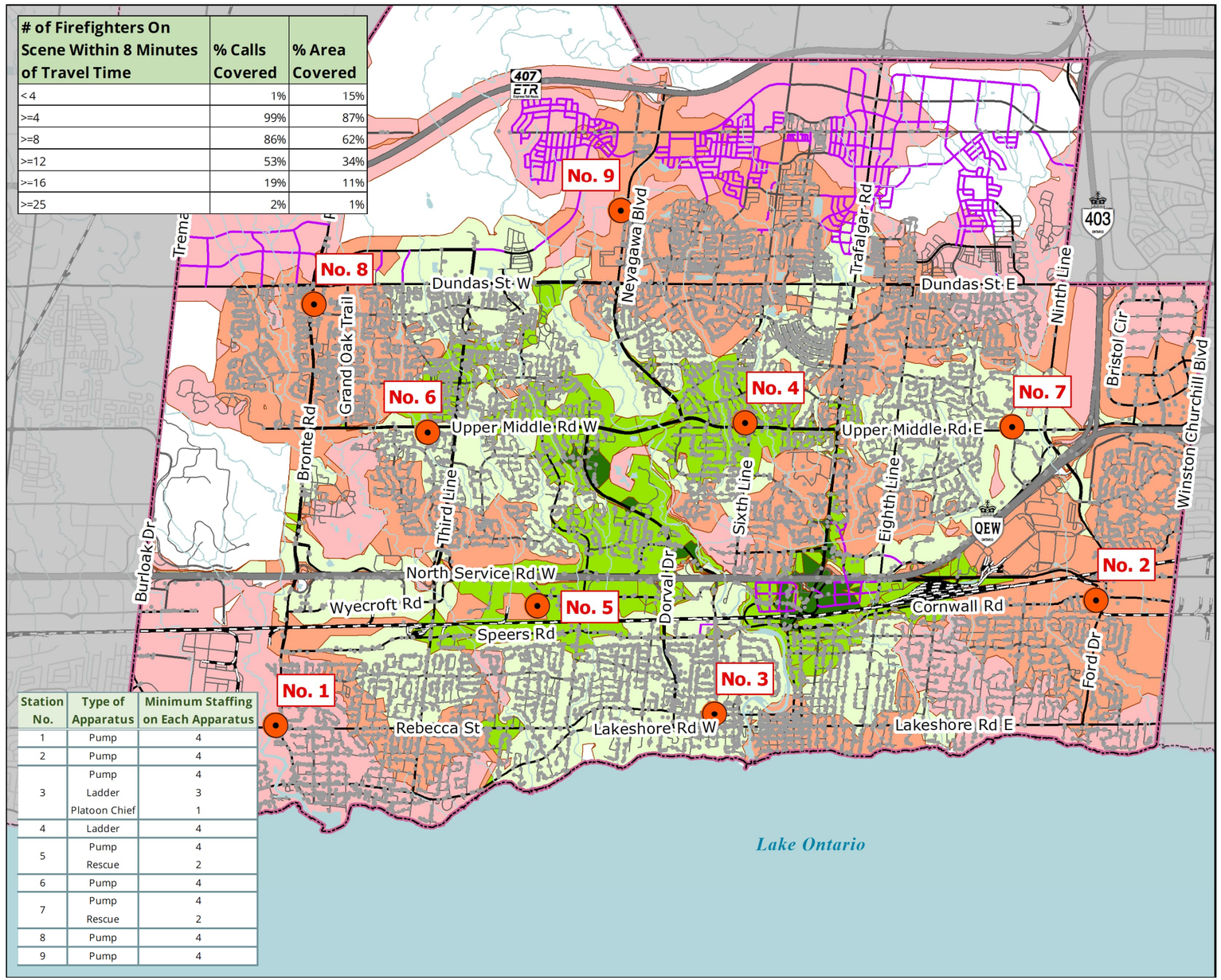


Figure 30: Future Baseline Initial Full Alarm Assignment



# of Firefighters On Scene Within 8 Minutes of Travel Time	% Calls Covered	% Area Covered
< 4	1%	15%
>=4	99%	87%
>=8	86%	62%
>=12	53%	34%
>=16	19%	11%
>=25	2%	1%

Station No.	Type of Apparatus	Minimum Staffing on Each Apparatus
1	Pump	4
2	Pump	4
3	Pump Ladder Platoon Chief	4 3 1
4	Ladder	4
5	Pump Rescue	4 2
6	Pump	4
7	Pump Rescue	4 2
8	Pump	4
9	Pump	4

TOWN OF OAKVILLE

INITIAL FULL ALARM ASSIGNMENT FUTURE BASELINE

- Historic Incident (2015-
- Existing Station Location
- Future

Number of Staff On Scene within 8 Minutes of Travel Time

- ≥ 4 Firefighters
- ≥ 8 Firefighters
- ≥ 12 Firefighters
- ≥ 16 Firefighters
- ≥ 25 Firefighters

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-10-16

9.14 Future Fire Suppression Strategies – Existing Minimum Staffing

Current industry best practices indicate that the fire master planning process should consider the projected ten-year community planning, and growth management process, and the concept of seeking "continuous improvement"[65].This aligns with Fire Strategic Goals 3 and 4 (Section 3.4.1).

The statistical analysis of historic OFD call data for the period of January 1, 2015, to December 31, 2022, presented above highlights increasing total response times, including the elements of turnout and travel times. When this is coupled with the considerations of future growth, particularly higher density development and intensification, this has implications for improving the response capabilities for the Town.

9.14.1 Enhance Existing Total Response Time Strategy

The analysis of the OFD historical fire suppression emergency response capabilities, including turnout time, travel time and total response time, for the period from January 1, 2015, to December 31, 2022, is presented in Section 9.5. The results indicate that OFD is significantly exceeding the NFPA 1710 performance benchmarks for turnout and travel times and this is impacting the department's existing Total Response Time capabilities.

Improving the performance capabilities of the turnout time does not directly impact the OFD's ability to achieve the NFPA 1710 standard travel time performance objectives of a four-minute travel time (initial arriving apparatus), six-minute travel time (second arriving apparatus) or eight-minute travel time (initial full alarm assignment). However, it would have a positive impact on improving the department's Total Response Time capabilities.

The analysis in Section 9.5 of this FMP supports the recommendation that the OFD continue to identify and implement strategies to target the reduction of turnout times within the Fire Suppression Division.

[65] Commission of Fire Accreditation International.

In our view, the identification and implementation of strategies that specifically target improvements in the department's turnout time should be considered the first priority for the Town to improving the OFD's Total Response Time.

The analysis of the existing Initial Arriving Company capabilities presented in Figure 19 in Section 9.8.3 of this FMP indicates that if the OFD was able to improve its historical turnout time by one minute the resulting impact would be an improvement in the department's capabilities that could support the OFD in responding to 81% of historical calls within the same Total Response Time provided currently (based on the five minute travel time coverage). In our view, there would be minimal financial investment on behalf of the Town required to implement this option.

Operational Recommendation #37: That the OFD investigate options to enhance the existing turnout times as a strategy to further reduce the existing total response time of the OFD.

9.15 Future Fire Suppression Strategies – Enhance Existing Depth of Response (9 Station Model)

As identified in the existing and future baseline analysis above, the OFD achieves the NFPA 1710 Initial Full-Alarm Assignment performance benchmark of 16 firefighters on scene within eight minutes of travel time for 11% of the Town's area and 19% of historical calls, and the 25 firefighters on-scene measures for 1% of the Town's area and 2% of historical calls in both the existing and future baseline scenarios.

9.15.1 Scenario 1 – Enhance Staffing on Existing Rescue Units (Increase Minimum Staffing to Four Firefighters)

The objective of Scenario 1 is to enhance the department's initial full-alarm assignment capabilities by increasing the minimum staffing level, while maintaining the existing number and type of OFD apparatus. Scenario 1 increases the minimum staffing levels from two to four firefighters on the existing rescue apparatus at Station 5 and at Station 7. This increases the overall on-duty minimum staffing from 44 to 48.

The mapped results of the initial full-alarm assignment analysis for Scenario 1 are presented in Figure 31. The response capabilities for Scenario 1 predict that the OFD would reach 28% of the Town's area and 47% of historical calls (from 2015 to 2022) with

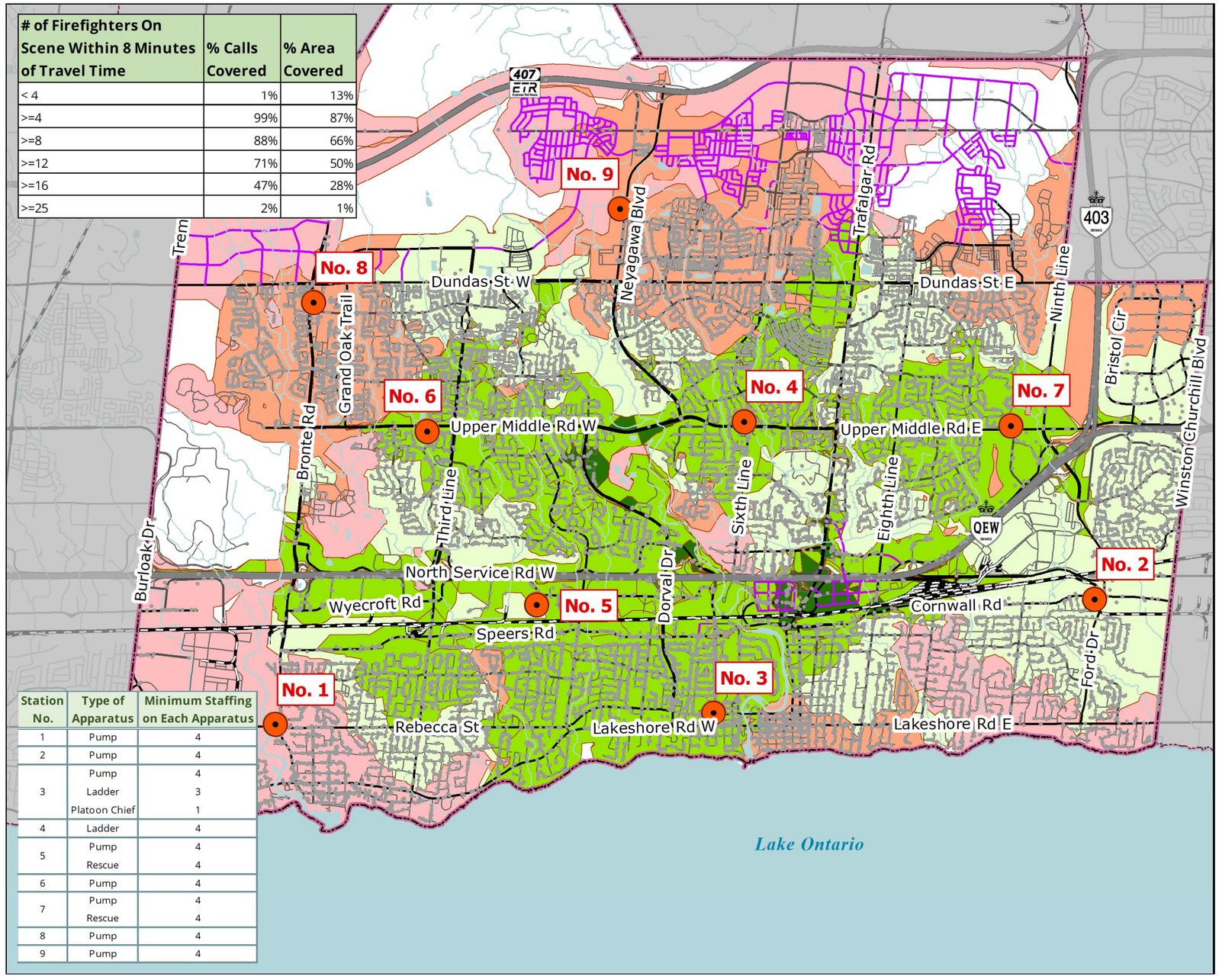
16 firefighters in eight minutes of travel time. The areas where this performance measure is met are shown in bright green on the map. Comparing the green coverage (representing 16 firefighters arriving on-scene in eight minutes travel time) shown in Scenario 1 to the future baseline conditions initial full alarm figure (Figure 31) identifies significant improvements in the areas surrounding Stations 1, 3, 4, 5, 6 and 7. This includes improvements in portions of the future strategic growth areas of the Midtown Urban Growth Centre and the Trafalgar Urban Core South in North Oakville (at Dundas Road and Trafalgar Street). These improved coverage area also correlate to some of the highest concentration of historical emergency incidents (2015 to 2021) mapped in the CRA, and shown above as Figure 18.

Scenario 1 results in the same results as future baseline conditions for assembling 25 firefighters on scene within eight-minutes of travel time (1% of the Town's area and 2% of the historical calls).

The analysis of this scenario focuses on the initial full alarm assignment performance. The second arriving apparatus results were not prepared for this scenario. This scenario will improve the second arriving company capabilities of the OFD, as the staffing on the rescues as second arriving apparatus will represent a full company with four firefighters. The percentage coverage of the second arriving company would then equal the percentage coverage of the second arriving apparatus, shown in future baseline conditions.

The initial arriving apparatus performance is based solely on the four-minute travel time component and therefore it is only impacted by changing the location or numbers of fire stations. In scenarios where the number and location of stations do not change, the initial arriving apparatus results remain the same as the future baseline conditions.

Figure 31: Scenario 1 – Increase Minimum Staffing on the Two Existing Rescue Units to Four Firefighters, Initial Full Alarm Assignment



# of Firefighters On Scene Within 8 Minutes of Travel Time	% Calls Covered	% Area Covered
< 4	1%	13%
>=4	99%	87%
>=8	88%	66%
>=12	71%	50%
>=16	47%	28%
>=25	2%	1%

Station No.	Type of Apparatus	Minimum Staffing on Each Apparatus
1	Pump	4
2	Pump	4
3	Pump Ladder Platoon Chief	4 3 1
4	Ladder	4
5	Pump Rescue	4 4
6	Pump	4
7	Pump Rescue	4 4
8	Pump	4
9	Pump	4

TOWN OF OAKVILLE

INITIAL FULL ALARM ASSIGNMENT FUTURE SCENARIO 1

- Historic Incident (2015-
- Existing Station Location
- Future

Number of Staff On Scene within 8 Minutes of Travel Time

- ≥ 4 Firefighters
- ≥ 8 Firefighters
- ≥ 12 Firefighters
- ≥ 16 Firefighters
- ≥ 25 Firefighters

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-11-07

9.15.1.1 Enhance Existing Depth of Response (Scenario 1) Summary

Table 26 summarizes the results of the emergency response capabilities analysis for Scenario 1 which increases the minimum staffing levels on the two existing rescue units to improve the depth of response within the current nine station model. The existing and Future Baseline response capabilities are provided for reference.

Table 26: Summary of Scenario 1 Response Capabilities

Scenario	Minimum Staffing Level	Initial Arriving Company (4 firefighters arriving on-scene in 4 minutes or less 90% of the time)	Second Arriving Apparatus (8 firefighters arriving on-scene in 6 minutes or less 90% of the time)	Initial Full Alarm Assignment (16 firefighters arriving on-scene in 8 minutes or less 90% of the time)	Urban Area Initial Full Alarm Assignment (25 firefighters arriving on-scene in 8 minutes or less 90% of the time)
Existing Conditions	44	44% of Area 61% of Calls	42% of Area 62% of Calls	11% of Area 19% of Calls	1% of Area 2% of Calls
Future Baseline	44	44% of Area 61% of Calls	42% of Area 62% of Calls	11% of Area 19% of Calls	1% of Area 2% of Calls
Scenario 1	48	44% of Area 61% of Calls	42% of Area 62% of Calls	28% Area 47% Calls	1% Area 2% Calls

The recommendations in this section that relate to hiring suppression staff to maintain on-duty staffing accounts for the four-platoon system and applies the hiring ratio of 1.33 (at the platoon level), instead of the historic 1.25.

Based on the results of Scenario 1 we recommend that the Town consider increasing the complement of firefighters to staff the rescue units regularly with four firefighters. This would increase the minimum staffing from 44 to 48 firefighters. By applying the 1.33 ratio at a platoon level, equals 64 per platoon, which would require hiring 16 additional firefighters.

Recommendation #12: That consideration be given to hiring 16 firefighters to increase the staffing of the two existing rescue units to four firefighters.

9.16 Future Fire Suppression Strategies – Enhance Existing Fire Suppression Capabilities, Proposed 10 and 11 Station Models

The existing conditions analysis of the OFD's initial arriving apparatus, second arriving apparatus and initial full alarm assignment response capabilities, compared against planned future growth and intensification areas, identifies gaps in existing services and needs for future services in both northeast Oakville and mid-town. The consideration of a 10 and 11 station model for Oakville analyzes options to improve both the initial arriving apparatus response capabilities as well as depth of response performance and aims for the continuous improvement of the emergency response capabilities of the OFD (Fire Strategic Goal 3). These scenarios were developed to address community risks and future growth, including the areas of high call concentration and residential areas (existing and planned) identified as key risks within the Community Risk Assessment.

To support future growth and development, the following scenarios were analyzed or modelled within this section:

- Scenario 2 – Add future Station 10 (and front-line apparatus) at the model-selected location;
- Scenario 3 – Add future Station 10 (model-selected location) and Station 11 (and front-line apparatus) at the model-selected location; and
- Scenario 4 – Add future Station 10 (model-selected) and Station 11 (and front-line apparatus) at the existing Town Hall Location.

9.16.1 Scenario **2** – Add Future Station **10** and Front-Line Apparatus (Model-Selected Location)

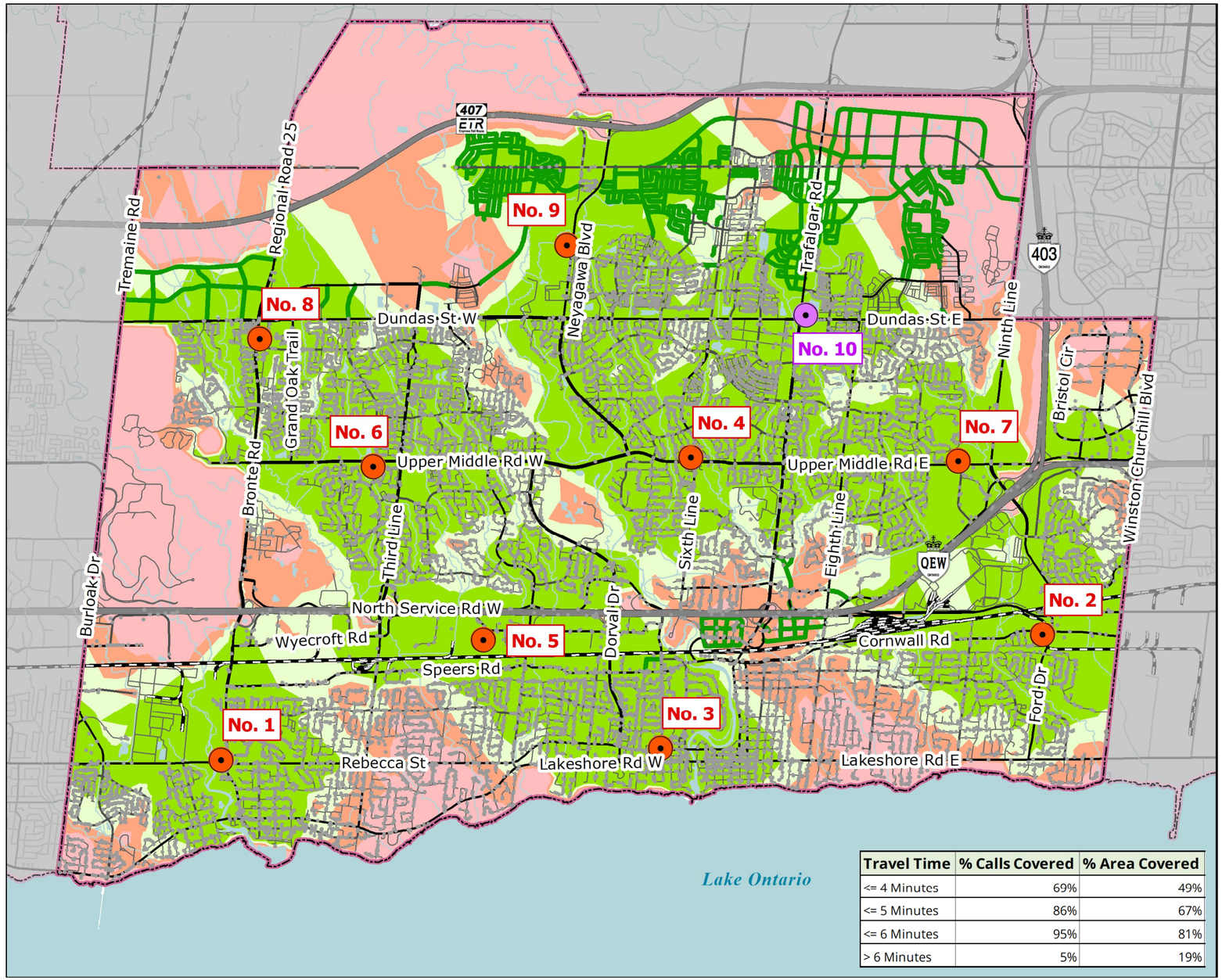
Scenario 2 assesses the future fire suppression capabilities of a ten-station model planned to address growth, development, and intensification in North Oakville through its strategic location and additional staffed front-line apparatus. This scenario builds on the future baseline conditions and increases the minimum staffing from 44 to 48.

The GIS-based emergency response model and Esri's Location Allocation Tool were used to identify an optimal location for a potential future tenth station. Within the tool options were provided for potential station locations and a grid of demand points was applied in areas of planned growth/development (to simulate future calls), in combination with the historical call locations (January 1, 2015, to December 31, 2022). Through this analysis the tool selected an optimized location of the intersection of Trafalgar Road and Dundas Street East for future Station 10. This was the location assessed in Scenario 2. We recognize that acquiring property exactly at this intersection would be challenging. Seeking a property within a 500-metre radius of the intersection would continue to provide very comparable results. The initial arriving apparatus results of Scenario 2 are provided in Figure 32. Under a 10 station model the OFD can cover 49% of the Town's area (a 5% improvement from future baseline) and 69% of historical call locations (an improvement of 8% from future baseline). Visually, the area covered by the initial arriving apparatus, shown in bright green, shows significant improvement in the areas of future planned roads (representing areas of future growth and development). Scenario 2 is predicted to result in 25 firefighters in eight minutes of travel time (shown in dark green) to 1% of the Town's area and 2% of historical calls, as in Scenario 1 and future baseline conditions.

The second arriving apparatus results for Scenario 2 are presented in Figure 33. With a 10 station model the OFD are predicted to achieve a second apparatus on-scene to 44% of the Town's area and 68% of historical calls. This represents an improvement of 2% area and 6% calls from future baseline conditions.

The initial full alarm assignment results for Scenario 2 are shown in Figure 34. The ten-station model, with a new front-line apparatus improve the coverage of 16 firefighters arriving in eight minutes of travel time to 16% area and 29% of calls (a 5% improvement in area coverage and a 10% improvement in call coverage compared to future baseline conditions).

Figure 32: Scenario 2 – Add Future Station 10 and Front-Line Apparatus (Model-Selected Location), Initial Arriving Apparatus



Travel Time	% Calls Covered	% Area Covered
<= 4 Minutes	69%	49%
<= 5 Minutes	86%	67%
<= 6 Minutes	95%	81%
> 6 Minutes	5%	19%

TOWN OF OAKVILLE

INITIAL ARRIVING COMPANY PROPOSED STATION 10

- Existing Station Location
- Proposed Station Location
- Historic Incident (2015-2022)
- Future Road Network

Travel Time

- 4 Minutes at Network Speed
- 5 Minutes at Network Speed
- 6 Minutes at Network Speed
- > 6 Minutes at Network Speed

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-11-06

Figure 33: Scenario 2 – Add Future Station 10 and Front-Line Apparatus (Model-Selected Location), Second Arriving Apparatus

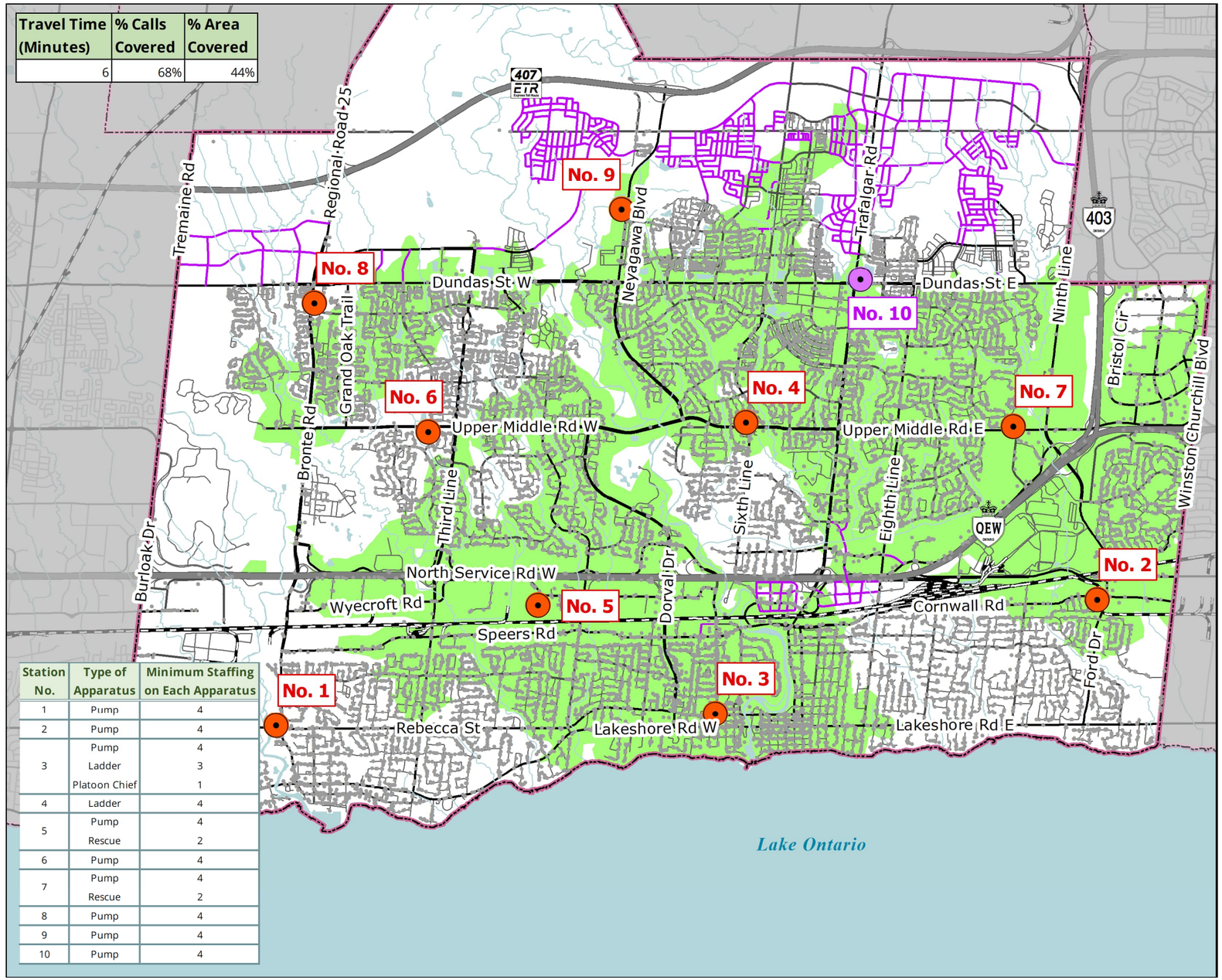
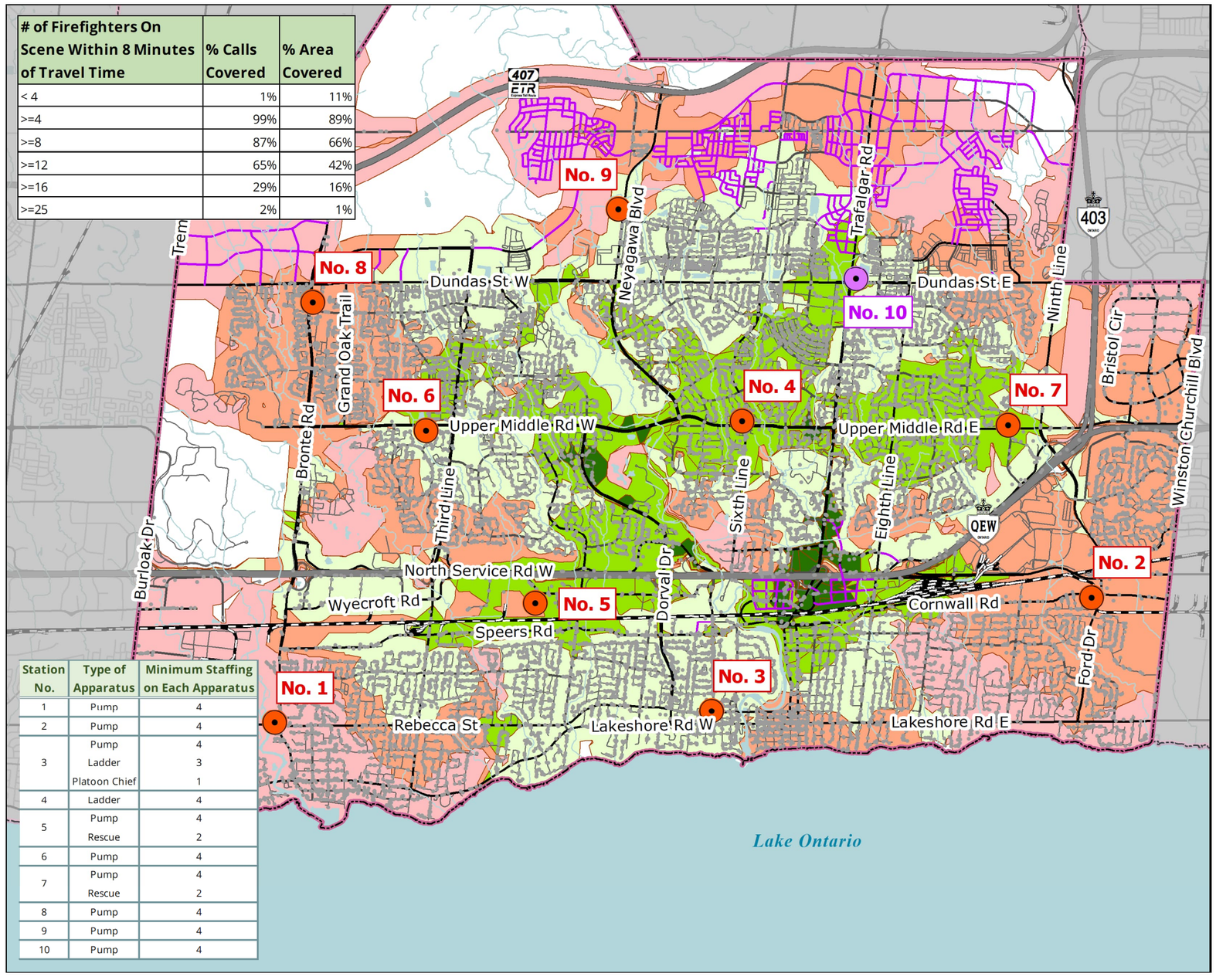


Figure 34: Scenario 2 – Add Future Station 10 and Front-Line Apparatus (Model-Selected Location), Initial Full Alarm Assignment



# of Firefighters On Scene Within 8 Minutes of Travel Time	% Calls Covered	% Area Covered
< 4	1%	11%
>=4	99%	89%
>=8	87%	66%
>=12	65%	42%
>=16	29%	16%
>=25	2%	1%

Station No.	Type of Apparatus	Minimum Staffing on Each Apparatus
1	Pump	4
2	Pump	4
3	Pump Ladder Platoon Chief	4 3 1
4	Ladder	4
5	Pump Rescue	4 2
6	Pump	4
7	Pump Rescue	4 2
8	Pump	4
9	Pump	4
10	Pump	4

TOWN OF OAKVILLE

INITIAL FULL ALARM ASSIGNMENT PROPOSED STATION 10

- Existing Station Location
- Proposed Station Location
- Historic Incident (2015-
- Future Road

Number of Staff On Scene within 8 Minutes of Travel Time

- ≥ 4 Firefighters
- ≥ 8 Firefighters
- ≥ 12 Firefighters
- ≥ 16 Firefighters
- ≥ 25 Firefighters

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-11-06

9.16.1.1 Scenario **3** – Add Station **10** (from Scenario **2**) and add Station **11** and Front-Line Apparatus (Model-Selected Location)

Scenario 3 builds upon Scenario 2 and assesses the future fire suppression capabilities of an eleven-station model. In addition to Station 10 responding to planned growth, development, and intensification in North Oakville, the location and additional staffed front-line apparatus of a future Station 11 would address existing gaps and future needs as a result of growth and intensification in the Mid-Town area. This scenario increases the minimum staffing to 52.

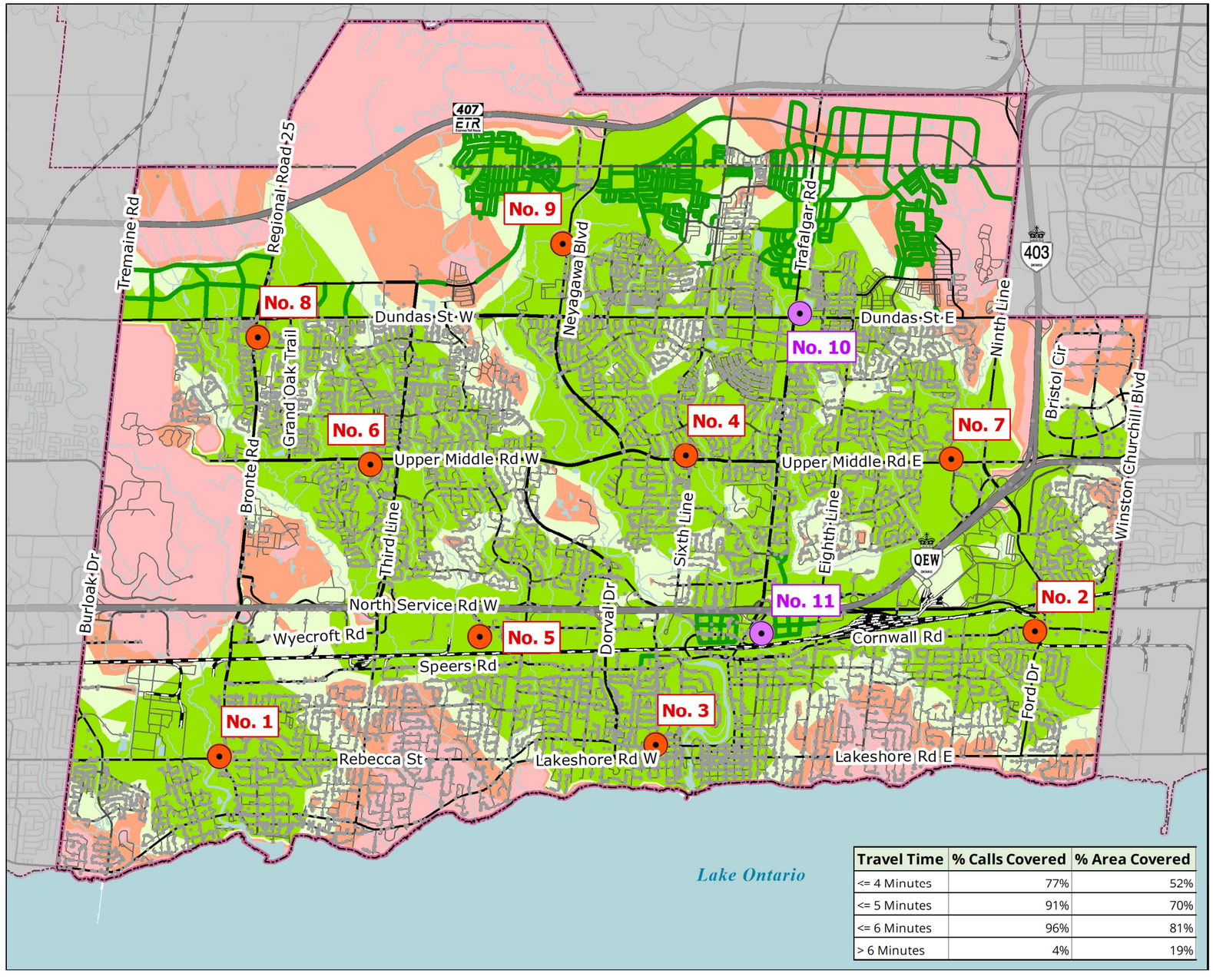
The GIS-based emergency response model and Esri's Location Allocation Tool were used to identify an optimal location for the potential future eleventh fire station. The same methodology applied in Scenario 2 was applied to the Mid-Town growth area. Through the analysis the Location Allocation Tool selected an optimized location on South Service Road East, south of Davis Road (east of Trafalgar Road).

This was the potential Station 11 location assessed in Scenario 3. The initial arriving apparatus results of Scenario 3 are provided in Figure 35. With an eleven-station model in place, the OFD are predicted to cover 52% of the Town's area (a 3% improvement from Scenario 2) and 77% of historical call locations (an 8% improvement from Scenario 2). Visually, the area covered by the initial arriving apparatus, shown in bright green, covers the entire proposed future road network (representing future growth areas) in the Mid-Town area. The coverage addresses an existing gap in initial response coverage as well as planned future growth and intensification areas.

The results for the second arriving apparatus response capabilities for Scenario 3 are presented in Figure 36. With an eleven station model the OFD are predicted to achieve a second apparatus on-scene to 47% of the Town's area and 71% of historical calls. This represents an improvement of 3% area and 3% calls from Scenario 2's results.

The initial full alarm assignment results for Scenario 3 are shown in Figure 37. With an eleven-station model, including a new front-line apparatus at proposed Station 11, the predicted response coverage of 16 firefighters arriving in eight minutes of travel time improves to 25% area and 47% of calls (a 9% improvement in area coverage and an 18% improvement in call coverage compared to Scenario 2 results). Scenario 3 is predicted to result in 25 firefighters in eight minutes of travel time (shown in dark green) to 5% of the Town's area and 10% of historical calls. This includes coverage of the Mid-Town area.

Figure 35: Scenario 3 – Add Station 10 (from Scenario 2) and add Station 11 and Front-Line Apparatus (Model-Selected Location), Initial Arriving Apparatus



Travel Time	% Calls Covered	% Area Covered
<= 4 Minutes	77%	52%
<= 5 Minutes	91%	70%
<= 6 Minutes	96%	81%
> 6 Minutes	4%	19%

TOWN OF OAKVILLE

INITIAL ARRIVING COMPANY PROPOSED STATIONS 10 AND 11

- Existing Station Location
- Proposed Station Location
- Historic Incident (2015-2022)
- Future Road Network

Travel Time

- 4 Minutes at Network Speed
- 5 Minutes at Network Speed
- 6 Minutes at Network Speed
- > 6 Minutes at Network Speed

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

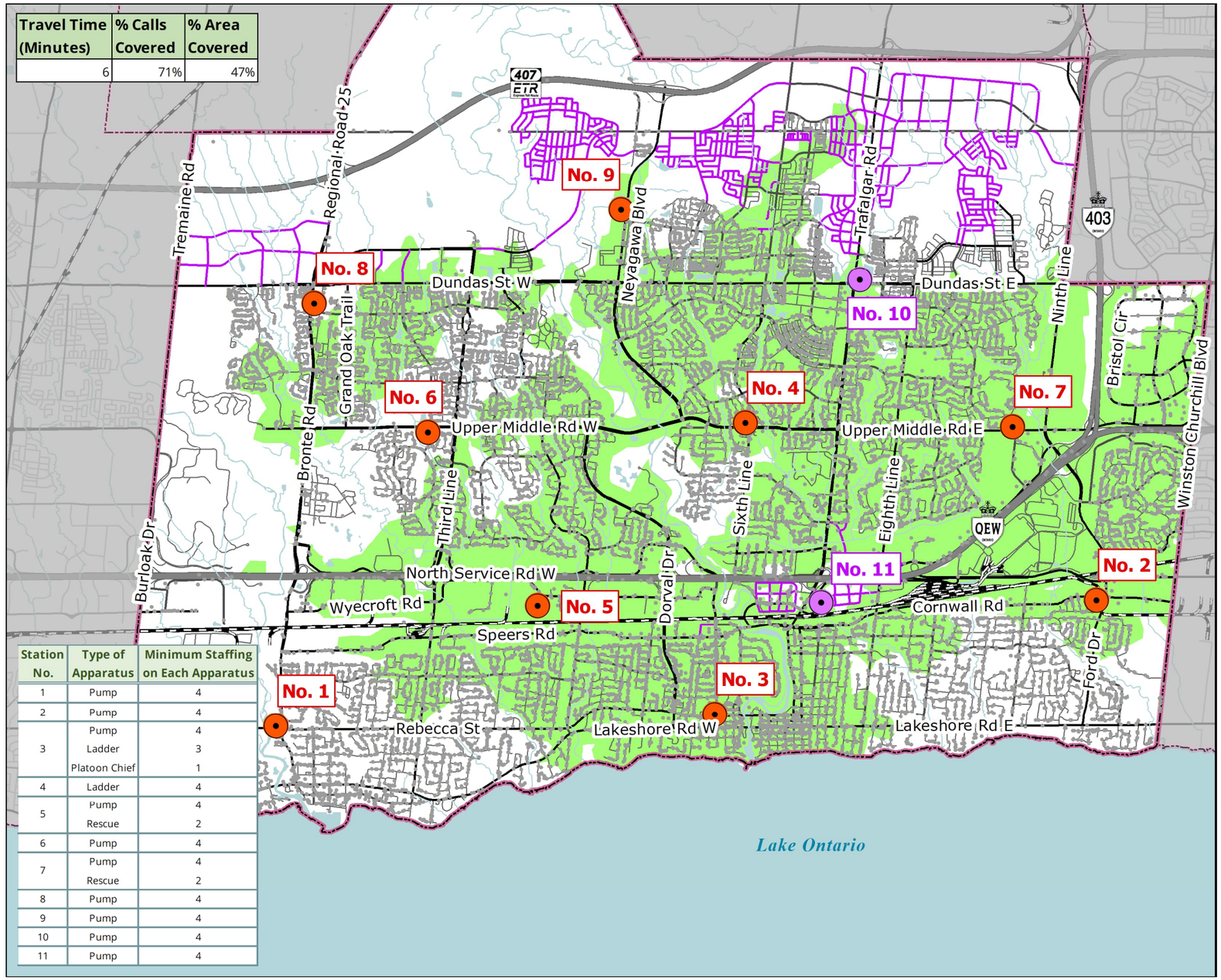
DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-11-06

DILLON CONSULTING

Figure 36: Scenario 3 – Add Station 10 (from Scenario 2) and add Station 11 and Front-Line Apparatus (Model-Selected Location), Second Arriving Apparatus



Station No.	Type of Apparatus	Minimum Staffing on Each Apparatus
1	Pump	4
2	Pump	4
3	Pump	4
	Ladder	3
	Platoon Chief	1
4	Ladder	4
5	Pump	4
	Rescue	2
6	Pump	4
7	Pump	4
	Rescue	2
8	Pump	4
9	Pump	4
10	Pump	4
11	Pump	4

TOWN OF OAKVILLE

SECOND ARRIVING APPARATUS PROPOSED STATIONS 10 AND 11

- Existing Station Location
- Proposed Station Location
- Historic Incident (2015-2022)
- Future Road
- Second Arriving Apparatus in 6 Minutes of Travel Time

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

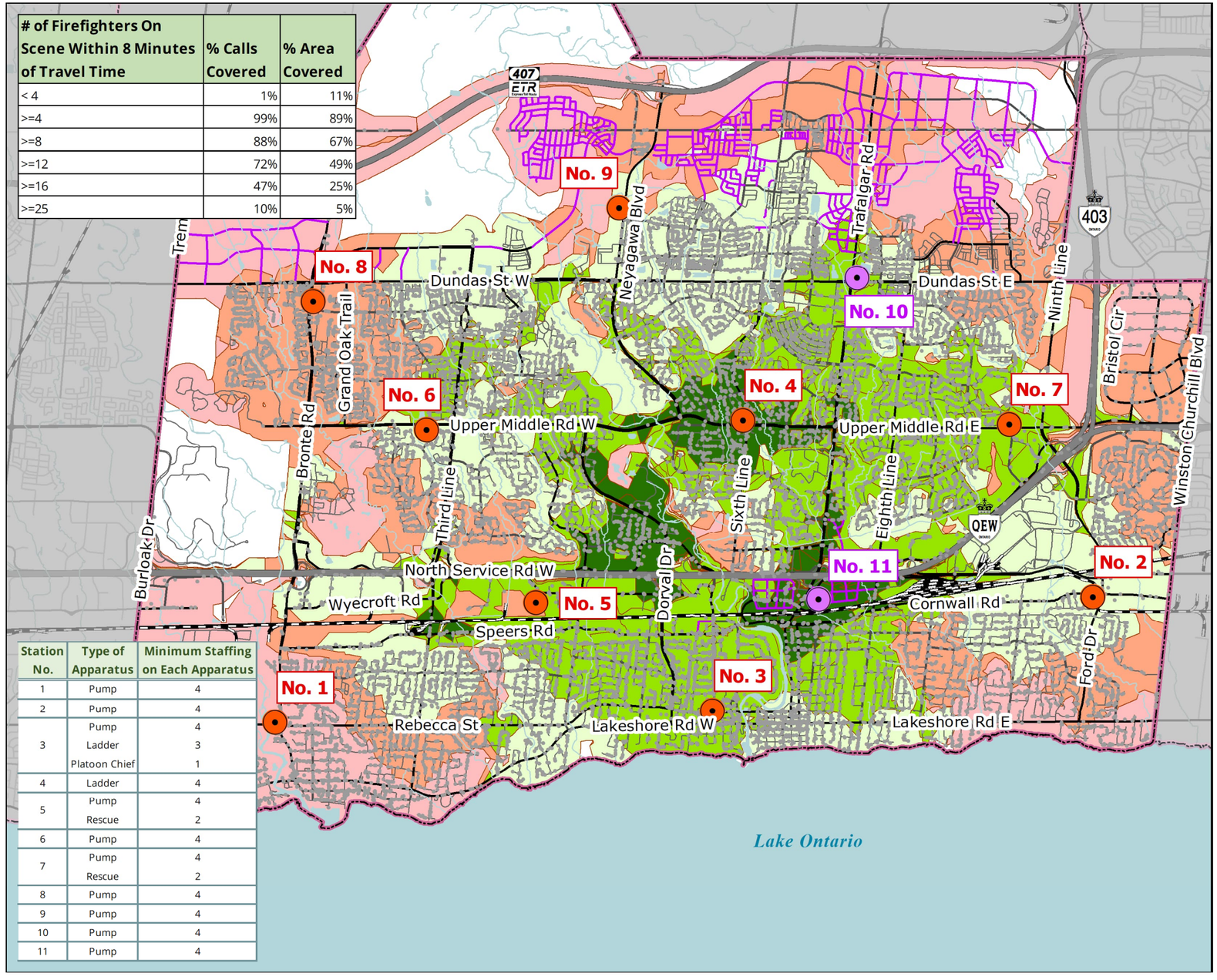
NORTH

DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-11-06

Figure 37: Scenario 3 – Add Station 10 (from Scenario 2) and add Station 11 and Front-Line Apparatus (Model-Selected Location), Initial Full Alarm Assignment



# of Firefighters On Scene Within 8 Minutes of Travel Time	% Calls Covered	% Area Covered
< 4	1%	11%
>=4	99%	89%
>=8	88%	67%
>=12	72%	49%
>=16	47%	25%
>=25	10%	5%

Station No.	Type of Apparatus	Minimum Staffing on Each Apparatus
1	Pump	4
2	Pump	4
3	Pump Ladder Platoon Chief	4 3 1
4	Ladder	4
5	Pump Rescue	4 2
6	Pump	4
7	Pump Rescue	4 2
8	Pump	4
9	Pump	4
10	Pump	4
11	Pump	4

TOWN OF OAKVILLE

INITIAL FULL ALARM ASSIGNMENT PROPOSED STATIONS 10 AND 11

- Existing Station Location
- Proposed Station Location
- Historic Incident (2015-
- Future

Number of Staff On Scene within 8 Minutes of Travel Time

- ≥ 4 Firefighters
- ≥ 8 Firefighters
- ≥ 12 Firefighters
- ≥ 16 Firefighters
- ≥ 25 Firefighters

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-11-06

DILLON CONSULTING

9.16.1.2 Scenario **4** – Add Station **10** (from Scenario **2**) and add Station **11** and Front-Line Apparatus (Existing Town Hall Location)

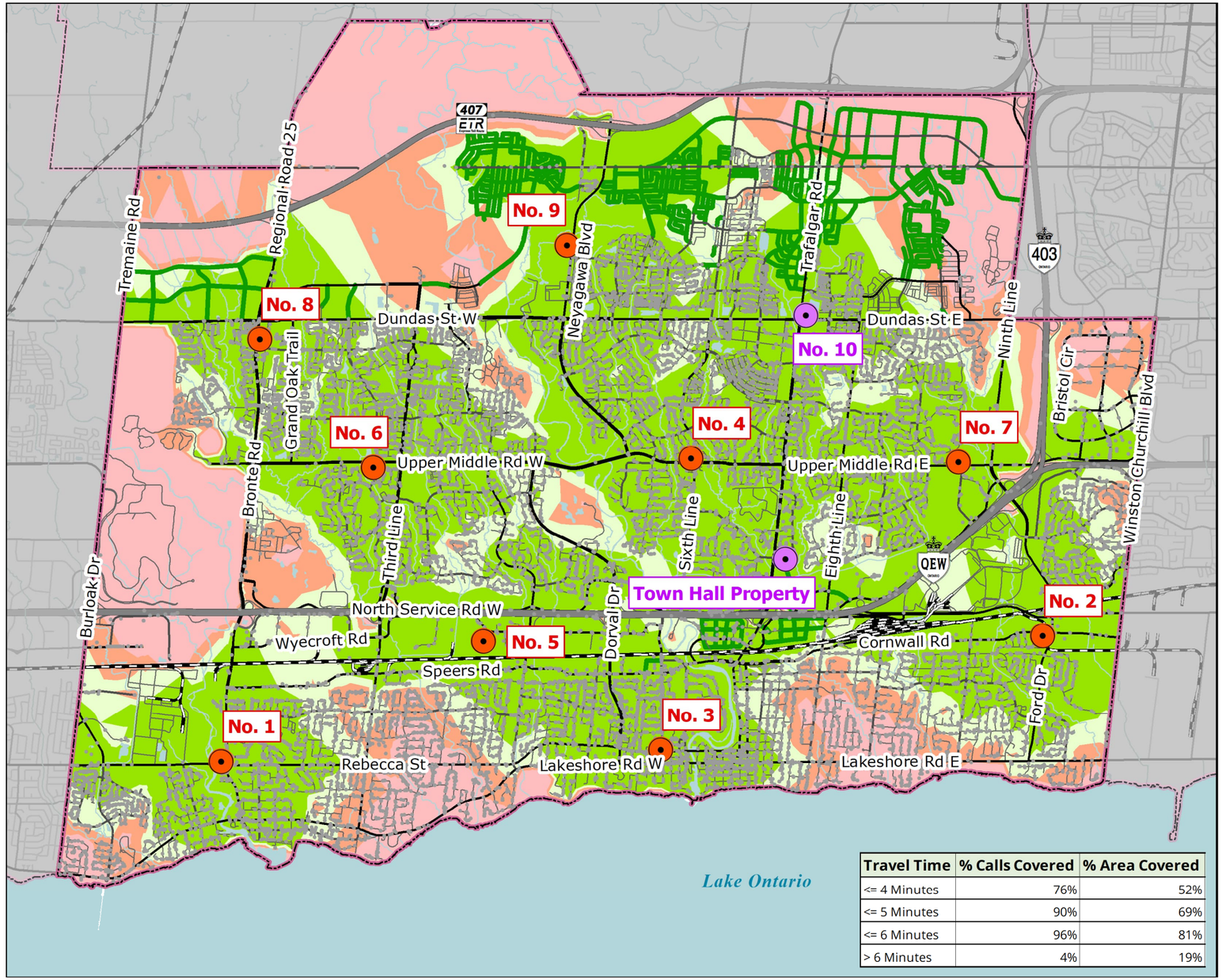
Scenario 4 tests an alternate location for the proposed future Station 11. All other conditions of this scenario remain the same as Scenario 3, including the minimum staffing of 52. As the Mid-Town area may prove challenging for land acquisition, it was requested that we analyze the potential response capabilities for a proposed Station 11 located at the existing Oakville Town Hall address as a potential future site.

Scenario 4 assessed the future predicted initial arriving apparatus and the initial full alarm assignment as the two most influential measures for comparing potential station locations.

The initial arriving apparatus results of Scenario 4 are provided in Figure 38. The eleven-station model with Station 11 located at the existing Town Hall site results in a predicted coverage of 52% of the Town's area (equal to Scenario 3) and 76% of historical call locations (an 1% reduction from Scenario 3). Visually, the area covered by the initial arriving apparatus, shown in bright green, varies slightly between Scenario 3 and Scenario 4. Both scenarios provide coverage to the future proposed roads in Mid-Town. Scenario 3 provides more coverage to existing development south of Cornwall Road and east of Trafalgar Road. Scenario 4 provides more coverage to the existing development located west of Trafalgar Road, between Upper Middle Road East and the QEW. Generally, the initial full alarm assignment performance of Scenarios 3 and 4 are quite comparable.

The initial full alarm assignment results for Scenario 4 are shown in Figure 39. The eleven-station model with Station 11 located at the existing Town Hall site results in the predicted response coverage of 16 firefighters arriving in eight minutes of travel time improves to 26% area (a 1% improvement from Scenario 3) and 48% of historical call coverage (a 1% improvement from Scenario 3). Scenario 4 is predicted to result in the OFD assembling 25 firefighters in eight minutes of travel time to 5% of the Town's area and 10% of historical calls, which is the same amount of coverage predicted in Scenario 3, and also provides coverage of the Mid-Town area.

Figure 38: Scenario 4 – Add Station 10 (from Scenario 2) and add Station 11 and Front-Line Apparatus (Town Hall Location), Initial Arriving Apparatus



Travel Time	% Calls Covered	% Area Covered
<= 4 Minutes	76%	52%
<= 5 Minutes	90%	69%
<= 6 Minutes	96%	81%
> 6 Minutes	4%	19%

TOWN OF OAKVILLE

INITIAL ARRIVING COMPANY PROPOSED STATIONS 10 AND TOWN HALL PROPERTY

- Existing Station Location
- Proposed Station Location
- Historic Incident (2015-2022)
- Future Road Network

Travel Time

- 4 Minutes at Network Speed
- 5 Minutes at Network Speed
- 6 Minutes at Network Speed
- > 6 Minutes at Network Speed

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

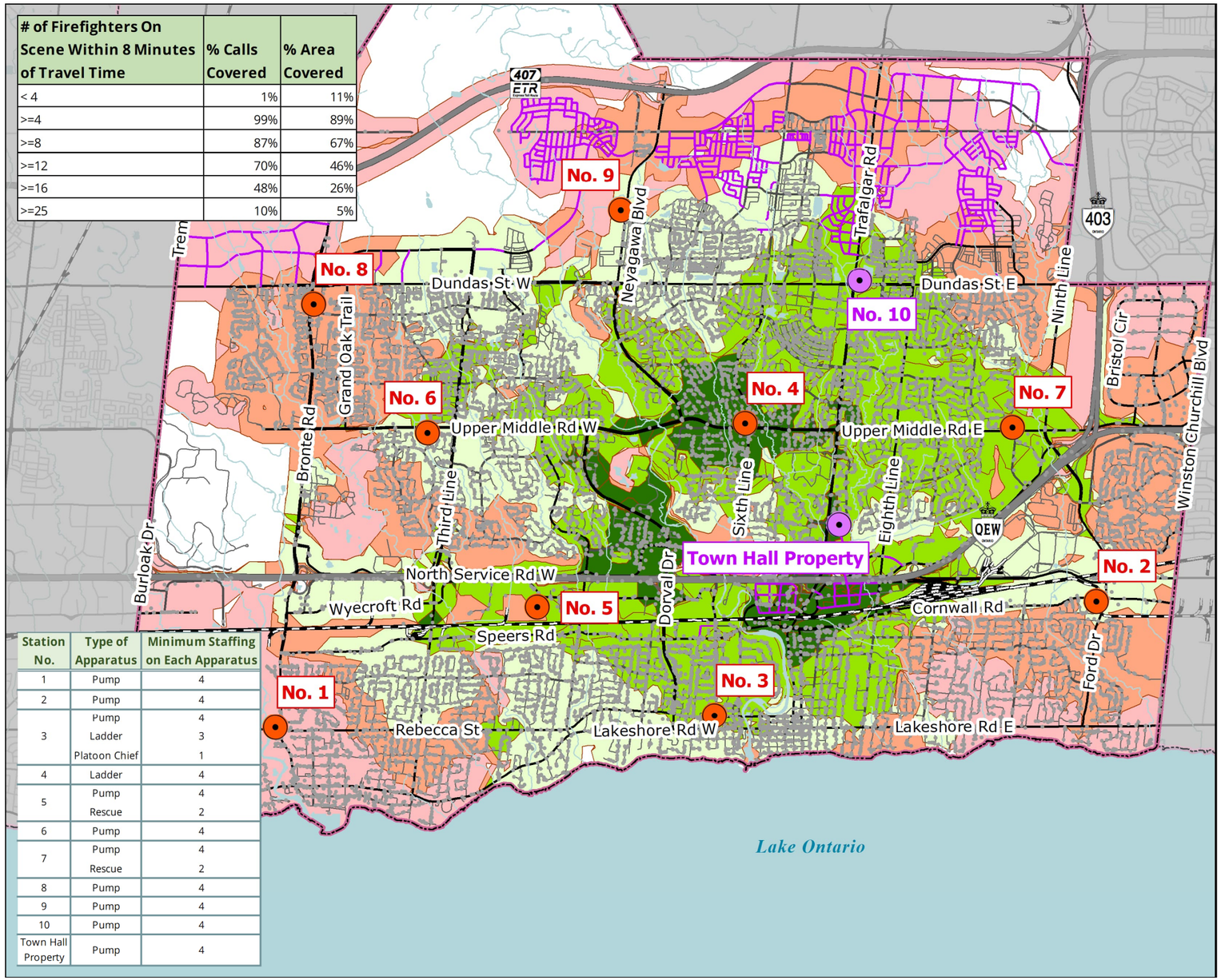
DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-11-06

DILLON CONSULTING

Figure 39: Scenario 4 – Add Station 10 (from Scenario 2) and add Station 11 and Front-Line Apparatus (Town Hall Location), Initial Full Alarm Assignment



# of Firefighters On Scene Within 8 Minutes of Travel Time	% Calls Covered	% Area Covered
< 4	1%	11%
>=4	99%	89%
>=8	87%	67%
>=12	70%	46%
>=16	48%	26%
>=25	10%	5%

Station No.	Type of Apparatus	Minimum Staffing on Each Apparatus
1	Pump	4
2	Pump	4
3	Pump Ladder Platoon Chief	4 3 1
4	Ladder	4
5	Pump Rescue	4 2
6	Pump	4
7	Pump Rescue	4 2
8	Pump	4
9	Pump	4
10	Pump	4
Town Hall Property	Pump	4

TOWN OF OAKVILLE

INITIAL FULL ALARM ASSIGNMENT PROPOSED STATIONS 10 AND TOWN HALL PROPERTY

- Existing Station Location
- Proposed Station Location
- Historic Incident (2015-
- Future

Number of Staff On Scene within 8 Minutes of Travel Time

- ≥ 4 Firefighters
- ≥ 8 Firefighters
- ≥ 12 Firefighters
- ≥ 16 Firefighters
- ≥ 25 Firefighters

BASE DATA

- Town of Oakville Boundary
- Freeway
- Arterial Road
- Collector Road
- Local Road
- Rail Line
- Water Feature

0 1 2 km

NORTH

DATA PROVIDED BY:
TOWN OF OAKVILLE, MNRF

MAP CREATED BY: GM
MAP CHECKED BY: SCD
MAP PROJECTION:
NAD 1983 UTM Zone 17N

PROJECT: 21-3053
STATUS: DRAFT
DATE: 2023-11-07

9.16.1.3 Future Fire Suppression Strategies - Enhance Existing Fire Suppression Capabilities, Proposed **10** and **11** Station Models Summary

Table 27 summarizes the emergency response capabilities analysis results of the future presented in the sections above.

Table 27: Summary of Scenarios to Enhance Existing Fire Suppression Capabilities, Proposed 10 and 11 Station Models

Scenario	Minimum Staffing Level	Initial Arriving Company (4 firefighters arriving on-scene in 4 minutes or less 90% of the time)	Second Arriving Apparatus (8 firefighters arriving on-scene in 6 minutes or less 90% of the time)	Initial Full Alarm Assignment (16 firefighters arriving on-scene in 8 minutes or less 90% of the time)	Urban Area Initial Full Alarm Assignment (25 firefighters arriving on-scene in 8 minutes or less 90% of the time)
Existing Conditions	44	44% of Area 61% of Calls	42% of Area 62% of Calls	11% of Area 19% of Calls	1% of Area 2% of Calls
Future Baseline	44	44% of Area 61% of Calls	42% of Area 62% of Calls	11% of Area 19% of Calls	1% of Area 2% of Calls
Scenario 1 – Staff the two existing rescue units with 4 firefighters (9 Station Model)	48	44% of Area 61% of Calls	42% of Area 62% of Calls	28% Area 47% Calls	1% Area 2% Calls

Scenario	Minimum Staffing Level	Initial Arriving Company (4 firefighters arriving on-scene in 4 minutes or less 90% of the time)	Second Arriving Apparatus (8 firefighters arriving on-scene in 6 minutes or less 90% of the time)	Initial Full Alarm Assignment (16 firefighters arriving on-scene in 8 minutes or less 90% of the time)	Urban Area Initial Full Alarm Assignment (25 firefighters arriving on-scene in 8 minutes or less 90% of the time)
Scenario 2 – Add Station 10 and Crew of 4 firefighters	48	49% Area 69% Calls	44% Area 68% Calls	16% of Area 29% of Calls	1% of Area 2% of Calls
Scenario 3 – Add Station 10 and Station 11, each with a Crew of 4 firefighters	52	52% Area 77% Calls	47% Area 71% Calls	25% Area 47% Calls	5% Area 10% Calls
Scenario 4 – Add Station 10 and Station 11 (Town Hall Property), each with a Crew of 4 firefighters	52	52% Area 76% Calls	Results Not Available	26% Area 48% Calls	5% Area 10% Calls

Based on the results of Scenario 2, we recommend that the Town seek and acquire a property for a future tenth fire station in the vicinity of the Trafalgar Road and Dundas Street East intersection in the near term, and that the Town plan for the design and construction and staffing of a future tenth fire station in the short to mid-term horizon.

Recommendation #13: That the Fire Chief and staff begin to identify for Council potential properties in the vicinity of the intersection of Trafalgar Road and Dundas Street East for the location of a future tenth fire station.

Recommendation #14: That the Town of Oakville plan for the design, construction and staffing of a tenth fire station in the short to mid-term horizon of this FMP, aligned with the growth and intensification planned for this area.

Based on the results of Scenarios 3 and 4, we recommend that the Town investigate options to acquire property for a future eleventh fire station in the vicinity of South Service Road and Davis Road, or the existing Town Hall site. Both of these locations provided comparable emergency response coverage results when assessed using the GIS-based model. We also recommend that the Town plan for the design, construction and staffing of a future eleventh fire station in the mid to long-term horizon.

Recommendation #15: That the Fire Chief and staff investigate options for Council's consideration to acquire or identify potential properties in the vicinity of South Service Road and Davis Road, or the existing Town Hall site, for the location of a future eleventh fire station.

Recommendation #16: That the Town of Oakville plan for the design, construction and staffing of an eleventh fire station in the mid to long-term horizon of this FMP, aligned with the growth and intensification planned for this area.

9.17 Future Fire Suppression Strategies – Phased Implementation of District Chief Positions

As discussed in Section 9.7.2, the Platoon Chief position is experiencing more frequent complex calls, and situations where the span of control is reaching and surpassing the industry best practices. With the forecast growth of the Town of Oakville, and the planned and recommended growth of OFD, a need has been identified to initiate the implementation of a District Chief model for OFD. Ultimately, we anticipate this model

would divide the Town's geography into two response districts (e.g., north and south), and each would be covered by a District Chief position (long-term horizon). In order to implement this model, we support an option to add a District Chief position in the short-term of this FMP horizon. The new District Chief position and the existing Platoon Chief could divide the workload to provide the Incident Command required to reduce the span of control challenges that are being more prevalent with time. As new crews, new sectors (from an Incident Command perspective) and new stations are added in the mid to long-term horizon of this FMP, the workload for the Incident Commanders could be assessed and used to determine the timing for hiring the second District Chief. It is anticipated that the second District Chief position will be reviewed at the five-year update of this FMP.

Recommendation #17: That OFD initiate a phased approach to implementing a District Chief model, with the first phase starting in the short-term of this FMP.

9.18 Fire Suppression Division Summary and Recommendations

The Oakville Fire Department's Fire Suppression Division operates from nine existing fire stations that are strategically located within the Town's geography. The Town has plans to complete the permanent Fire Station 9 facility as well as a rebuilt of Fire Station 4.

This section presented the results of an analysis of the historical call data for OFD from January 1, 2015, to December 31, 2022. With the exception of COVID-19-related anomalies in 2020 and 2021, the annual call volumes responded to by OFD are increasing each year. This is expected with the growth and development occurring within the Town. The call data analysis identified that the department is significantly exceeding the NFPA 1710 performance benchmarks for turnout and travel times. These components are impacting the OFD's Total Response Time. In our view, the identification and implementation of strategies that specifically target improvements in the department's turnout times should be considered the first priority for the Town to improve the OFD's Total Response Time.

As required within O. Reg. 378/18, the Community Risk Assessment's key risks and findings were applied to the review and analysis of the OFD's delivery of fire protection services and emergency response performance. This includes the prioritization of providing emergency response capabilities to residential occupancies and the

consideration of emergency response to areas with high concentrations of all emergency call types.

In addition to assessing the current fire suppression deployment capabilities of the OFD, our analysis considered the existing staffing model within this division. This FMP provides discussion, analysis, and recommendations for strategies to support the department in maintaining the minimum staffing numbers and managing overtime challenges.

The Fire Suppression Division review included an in-depth analysis of the department's emergency response capabilities using a GIS-based network analyst model. The analyses included consideration of existing conditions as well as planned future growth, development, and intensification. The analysis of the department's existing emergency response capabilities identified an opportunity to enhance the department's depth of response performance such as the initial full alarm assignment performance.

The Town is planning for significant new growth, including increased density and increased heights of buildings (i.e., intensification), as well as greenfield development. The analysis within this section of the FMP aimed to respond to the planned future growth by assessing the future needs (and potential locations) for two additional fire stations.

A summary of the Suppression Strategies, including high-level capital and operating cost estimates is included in Table 28.

9.18.1 Recommendations

Recommendation #11: That consideration be given to adopting and sustaining a ratio of 1.33 (minimum on-duty firefighter to total complement of firefighters), applied per platoon.

Recommendation #12: That consideration be given to hiring 16 firefighters to increase the staffing of the two existing rescue units to four firefighters.

Recommendation #13: That the Fire Chief and staff begin to identify for Council potential properties in the vicinity of the intersection of Trafalgar Road and Dundas Street East for the location of a future tenth fire station.

Recommendation #14: That the Town of Oakville plan for the design, construction and staffing of a tenth fire station in the short to mid-term horizon of this FMP, aligned with the growth and intensification planned for this area.

Recommendation #15: That the Fire Chief and staff investigate options for Council's consideration to acquire or identify potential properties in the vicinity of South Service Road and Davis Road, or the existing Town Hall site, for the location of a future eleventh fire station.

Recommendation #16: That the Town of Oakville plan for the design, construction and staffing of an eleventh fire station in the mid to long-term horizon of this FMP, aligned with the growth and intensification planned for this area.

Recommendation #17: That Oakville Fire Department initiate a phased approach to implementing a District Chief model, with the first phase starting in the short-term of this FMP.

9.18.2 Operational Recommendations

Operational Recommendation #35: That the OFD investigate the feasibility of renovating and installing power vents in the bunker gear storage areas as identified in this FMP.

Operational Recommendation #36: That the OFD prioritize the implementation of a process to record, monitor and understand the impacts of the vertical response performance for all emergency responses to incidents at high-rise buildings to inform future department planning.

Operational Recommendation #37: That the OFD investigate options to enhance the existing turnout times as a strategy to further reduce the existing total response time of the OFD.

Table 28: Suppression Strategies Summary

Description of Scenario/Option Modelled	Minimum Staffing	Initial Arriving Company (4 FF[66] in 4 minutes)	Second Arriving Apparatus (Second Apparatus in 6 minutes)	Initial Full Alarm Assignment (16 FF in 8 minutes)	Initial Full Alarm Assignment (25 FF in 8 minutes)	Costs
Existing Conditions	44	44% of Area 61% of Calls	42% of Area 62% of Calls	11% of Area 19% of Calls	1% of Area 2% of Calls	Adopt a 1.33 ratio to maintain existing minimum staffing levels.
Future Baseline	44	44% of Area 61% of Calls	42% of Area 62% of Calls	11% of Area 19% of Calls	1% of Area 2% of Calls	Operating and Capital Expenses from Existing Conditions + Inflation to Future Horizon
Scenario 1 – Staff the two existing rescue units with 4FF (9 Station Model)	48	44% of Area 61% of Calls	42% of Area 62% of Calls	28% Area 47% Calls	1% Area 2% Calls	Hire 16 FFs (16 x $140K) = $2.24 M Operating, Firefighter Uniforms/PPE[67] (16x $10 K) = $160 K Capital Renovations of Station 5 =$1 M Total Operating = $2.24 M Total Capital = $1.16 M
Scenario 2 – Add Station 10 and Crew of 4 FF	48	49% Area 69% Calls	44% Area 68% Calls	16% of Area 29% of Calls	1% of Area 2% of Calls	Station Land Purchase = $8 M Capital Station Design = $1 M Capital Construction = $13 M Capital Additional Frontline Apparatus = $1.4M Capital Hire 24 FF (24 x $140K) = $3.36M Operating, FF Uniforms/PPE (24x $10K) = $240K Capital Total Operating = $3.36 M Total Capital = $23.64 M
Scenario 3 – Add Station 10 and Station 11, each with a Crew of 4 FF	52	52% Area 77% Calls	47% Area 71% Calls	25% Area 47% Calls	5% Area 10% Calls	Station Land Purchase = $21.5M Capital Station Design = $1 M Capital Construction = $14 M Capital Additional Frontline Apparatus = $1.4 M Capital Hire 20 FF (20 x $140K) = $2.8M Operating, FF Uniforms/PPE (20x $10K) = $200K Capital Total Operating = $2.8 M Total Capital = $38.1 M

[66] FF denotes Firefighter.
[67] PPE denotes Personal Protective Equipment.

Description of Scenario/Option Modelled	Minimum Staffing	Initial Arriving Company (4 FF[66] in 4 minutes)	Second Arriving Apparatus (Second Apparatus in 6 minutes)	Initial Full Alarm Assignment (16 FF in 8 minutes)	Initial Full Alarm Assignment (25 FF in 8 minutes)	Costs
Scenario 4 – Add Station 10 and Station 11 (Town Hall Property), each with a Crew of 4 FF	52	52% Area 76% Calls	Not Applicable	26% Area 48% Calls	5% Area 10% Calls	(Costs captured in Scenario 3, above)

10.0 Fleet and Major Equipment

Our research on the Oakville Fire Department's fleet and equipment operation and replacement practices indicates they are in line with the current industry best practices in the province of Ontario. The equipment and apparatus of the OFD are well-maintained and in good condition, with the oldest frontline apparatus being 14 years old. The OFD has 12 frontline apparatus, including eight pumpers, two aerials, and two rescues. In addition to the front-line units, there are three reserve apparatus, consisting of one pumper, one aerial, and one rescue. The OFD also has three support units, including a command unit, a roll-on roll-off unit that carries the OFD's off-road utility task vehicle (UTV) unit, and a portable classroom/rehab unit. The training division maintains a pumper and rescue for training purposes.

The Ontario Fire Marshal's PFSG 04-07-12 refers to the NFPA 1901 Standard for Automotive Fire Apparatus (2009 Edition) as a reference for the standards that should be considered in determining the appropriate apparatus for a community. NFPA 1901 provides the following definitions of major fire apparatus:

- Pumper: Fire apparatus with a permanently mounted fire pump of at least 750 gallons per minute (3,000 litres per minute) capacity, water tank and hose body whose primary purpose is to combat structural and associated fires.
- Initial Attack Apparatus: Fire apparatus with a fire pump of at least 250 gallons per minute (1,000 litres per minute) capacity, water tank, and hose body whose primary purpose is to initiate a fire suppression attack on structural, vehicular, or vegetation fires and to support associated fire department operations.
- Mobile Water Supply Apparatus (Tanker): A vehicle designed primarily for transporting (pick-up, transporting, and delivering) water to fire emergency scenes to be applied by other vehicles or pumping equipment.
- Quint: Fire apparatus with a permanently mounted fire pump, a water tank, a hose storage area, an aerial or elevating platform with a permanently mounted waterway, and a complement of ground ladders.
- Special Services Fire Apparatus: A multipurpose vehicle that primarily provides support services at emergency scenes.

In addition to NFPA 1901 the industry commonly refers to the following types of major fire apparatus:

- Rescue: A vehicle specifically designed for the purposes of transporting specialized rescue equipment such as vehicle extrication equipment, water/ice rescue equipment, hazardous materials equipment, and additional fire suppression support equipment such as additional self-contained breathing apparatus.
- Pump/Rescue: A vehicle that combines the traditional functions of a pumper and a rescue apparatus into one multi-functional apparatus.
- Aerial Device: A vehicle equipped with an aerial device, elevating platform, or water tower that is designed and equipped to support firefighting and rescue operations by positioning personnel, handling materials, providing continuous egress, or discharging water at positions elevated from the ground.

Table 29 represents the current frontline apparatus operating within the OFD and the forecasted replacement year.

Table 29: Front-Line Fire Apparatus

Fleet Number	Station	Vehicle Description	Year Purchased	Forecasted Replacement Date
831-20	Station 1	Spartan Pumper (P201)	2020	2033
844	Station 1	HME HazMat Unit (H201)	2004	2026
827-11	Station 2	Spartan Pumper (P202)	2011	2024
819	Station 3	Spartan Pumper (P203)	2009	2024
847-14	Station 3	Rosenbauer Aerial (A203)	2013	2026
824-15	Station 4	Pierce Aerial (A204)	2015	2028
800	Station 5	Spartan Pumper (P205)	2009	2024
801-23	Station 5	Spartan Heavy Rescue (R205)	2023	2036
820-18	Station 6	Spartan Pumper (P206)	2018	2031
821	Station 7	Spartan Pumper (P207)	2009	2024
822	Station 7	Spartan Squad (S207)	2009	2024
832-20	Station 8	Spartan Pumper (P208)	2019	2032
854-17	Station 8	IHC Roll-Off Truck (SU208)	2016	2029
840-14	Station 9	Spartan Pumper P209	2014	2027

10.1 Service Ready Fleet Considerations

Maintaining a fleet of service ready fire apparatus reflects current industry best practices and is supported by the Fire Insurance Underwriters as due diligence on behalf of the municipality. Maintaining a sufficient number of reserve apparatus in good working condition is critical in the event of multiple frontline apparatus breakdowns, or in the event of a major incident where additional apparatus may be required to be pressed into service to maintain an adequate level of fire suppression services to the rest of the municipality.

The OFD currently has a fleet replacement plan based on a twenty-year capital budget cycle where the frontline apparatus is scheduled for replacement at the 13-year mark and then they placed into the reserve status for an additional seven years.

The existing reserve apparatus within the OFD fleet are described below in Table 30.

Table 30: Service Ready Major Fire Apparatus

Fleet Number	Station	Vehicle Description	Year Purchased
847	Station 6 (Spare)	Spartan 100' Aerial (A250)	2004
831	Training (Spare)	Spartan Pumper (P250)	2007
839	Training (Spare)	HME Rescue R250	2002
823	Training	Spartan Rescue[68] (SU260)	2007
843	Training	HME Pumper[69] (P260)	2004

Currently the three service ready reserve units are pressed into service when a front-line unit is scheduled for service or when there is a mechanical breakdown of a frontline unit. With the call volume Oakville is experiencing today, coupled with expected growth in the call volumes as a result of the growth of the community north of Dundas, and

[68] Apparatus assigned to the training division.
[69] Apparatus assigned to the training division.

infill construction, the OFD will experience additional wear and tear on their frontline apparatus. The increased call volume, along with the complexities of the newer modern fire apparatus, will drive the necessity for the apparatus to be out of service more frequently for maintenance and the potential for breakdowns. A best practice for Oakville will be to increase the number of service ready apparatus to ensure they are prepared to manage the out of service frequencies they experience today and will occur in the future. It is recommended that the OFD increase the number of service ready pumpers to ensure they can maintain the approved service levels council has set for the community.

Recommendation #18: That the Town of Oakville consider increasing the number of service-ready reserve units to ensure the council-approved level of service is maintained.

10.2 Small and Specialized Vehicles

In addition to the major fire apparatus the OFD operates several small and specialized vehicles. This includes vehicles for administration staff (Fire Chief and Deputy Fire Chiefs), training and fire prevention staff, and support vehicles for suppression.

Table 31 identifies the small and specialized vehicles of the OFD along with the forecast replacement dates.

Table 31: Current Small and Specialized Vehicles

Fleet Number	Division	Vehicle Description	Year Purchased	Forecast Replacement Date
829-20 C201	Administration	Ford Explorer	2020	2025
806-18	Administration	Ford Explorer	2018	2024
807-18 C203	Administration	Ford Explorer	2018	2023
808-18 C204	Administration	Ford Explorer	2018	2023

Fleet Number	Division	Vehicle Description	Year Purchased	Forecast Replacement Date
845-17 C206	Suppression	Ford Expedition	2017	2024
805-12 C207	Suppression	Ford Expedition	2012	2025
802-14	Fire Prevention	Ford Focus	2014	Not Applicable
803-17	Fire Prevention	Ford C-Max Energi SE	2017	2024
810-13	Fire Prevention	Ford Focus Electric	2012	2024
811-13	Fire Prevention	Ford Focus Electric	2012	2023
813-13	Fire Prevention	Ford Focus SE	2013	2026
815-16	Fire Prevention	Ford Focus Electric	2017	2027
815-17	Fire Prevention	Ford C-Max Energi SE	2017	2026
816-16	Fire Prevention	Ford Focus Electric	2016	2027
818-14	Fire Prevention	Ford Focus	2014	2024
838-13	Fire Prevention	Ford Focus SE	2013	2026
859	Fire Prevention	Ford Escape Hybrid	2010	2023
828	Fire Prevention	Chevrolet 1-ton Cube Van	2006	2023
864-12	Fire Prevention	Ford Transit Minivan	2012	2024
809-13	Suppression	F-250 Pickup	2013	2027
863-12	Suppression	Ford Transit Minivan	2012	2025
853	Suppression	Argo ATV Tracked with Cab	2009	2023
861	Oakville Fire Department Antique Truck	1948 Lafrance Pumper	1948	Not Applicable
817	Training	F250 HD XL	2008	2025
837-13	Training	Ford Passenger Van	2013	2026
846	Training	Chevrolet 1-tonne Pickup	2009	2024

Fleet Number	Division	Vehicle Description	Year Purchased	Forecast Replacement Date
849	Training	Ford F250 HD	2007	2024
858	Training	Ford Escape Hybrid	2010	2023
865-13	Training	Trailer Tandem Lowbed	2013	2029
860-12	Training	Cummins Standby Generator	Not Applicable	Not Applicable
851	Training	Miska Trailer	2005	2025
852	Training	Streamline Trailer	2006	2026
812-13	Fleet EVT	Ford Transit	2013	2027

10.3 Fleet Replacement Plan

Fleet lifecycle planning is a core component of the capital planning process and a best practice for fleet replacement for a municipality in Ontario. This assists in maintaining compliance with O. Reg. 588/17 – Asset Management Planning for the Municipal Infrastructure.

The Fire Underwriters Survey (FUS) requires that all major fire apparatus meet either the Underwriters Laboratory of Canada standard Underwriters Laboratory of Canada (ULC) – S515 – 04 or the NFPA 1901 – Standard for Automotive Fire Apparatus. FUS identifies the following major fire apparatus replacement guidelines:

- Major Cities: 12 to 15 years, with an additional five years in reserve;
- Medium Sized Cities: 15 years, with an additional five years as a backup, and five years in reserve; and
- Small Municipalities: 20 years, with an additional five years second line or reserve.

FUS defines a major city 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. The Town of Oakville meets the criteria for a “Major City,” and with their current replacement life cycle for fire apparatus, they are meeting industry best practices. As the Town of Oakville grows and call volumes continue to increase, it is recommended the Town of Oakville monitor the

fleet-associated maintenance and repair budgets for continuous increases of maintenance associated to increased mileage of front-line apparatus to determine if Oakville will need to make adjustments to their replacement schedule based on excessive wear and tear on isolated fire apparatus.

Operational Recommendation #38: That the Town of Oakville monitor the kilometres, maintenance and repair budgets of the fleet to determine if adjustments in the replacement schedule are required.

10.4 E-Fleet Strategy

In support of the Town's Key Corporate Objective for Climate Action, Oakville Fire Department has initiated and continues to plan for a number of green fleet opportunities. This section summarizes the key points of OFD's e-Fleet Strategy. By implementing these ideas and staying proactive in exploring emerging technologies and best practices, OFD has made significant strides towards achieving emission reductions and building a more sustainable fleet for the future.

Expansion of Battery-Powered Equipment: OFD continues to replace existing fossil fuel-powered equipment with battery-powered alternatives. This has included not only extrication/rescue tools, but also small hand tools and fans used in various rescue operations.

Deployment of Plug-in Hybrid Electric Vehicles (PHEVs): OFD is investigation options to expand the use of PHEVs beyond day-staff vehicles to include other operational vehicles, such as command vehicles, and support vehicles. This will help reduce emissions during both routine operations and emergency responses. The majority of OFD's support vehicles have transitioned to hybrid or full electric vehicle (EV) technology.

Exploration of Fully Electric Fire Apparatus: OFD is closely monitoring the advancements in electrified fire apparatus technology. As the technology matures and becomes more cost-effective, OFD is planning to consider piloting and integrating fully electric fire trucks into its fleet. The OFD is leveraging collaboration with industry partners and manufacturers to help stay updated on the latest developments and potential procurement options.

Investment in Charging Infrastructure: OFD, supported by the Town of Oakville, are planning and working towards adequate charging infrastructure to be in place to support the growing number of electric and plug-in hybrid vehicles. This includes planned charging stations to be installed at fire stations, training and prevention facilities, and other key locations frequented by department vehicles.

Driver Training and Education: OFD is actively developing comprehensive training programs for department personnel on the operation, maintenance, and charging procedures of electric and plug-in hybrid vehicles. This will help maximize efficiency and safety while minimizing downtime and operational disruptions.

Collaboration with Municipal Partners: OFD will work closely with other Town departments to leverage resources and share best practices in transitioning to greener fleets. To date this has provided opportunities for joint procurement, shared charging infrastructure, and collaborative research and development initiatives.

Continuous Monitoring and Evaluation: OFD continue to monitor and evaluate the performance and environmental impact of the e-Fleet strategy. Gathering feedback from personnel and other stakeholders is helping the department to identify areas for improvement and refine the approach over time.

10.5 Fleet Maintenance

The OFD's fire apparatus and vehicle maintenance is performed by the Town of Oakville's Fleet Operations, which is a division of the Roads and Works Operations Department within the Town of Oakville. Fleet Operations is responsible for fleet acquisition and disposition, parts and inventory, stores and distribution, and vehicle and equipment maintenance for the Town of Oakville.

The Town's Fleet Services operates out of 1140 South Service Road West in Oakville. This is a large parcel of land shared with Oakville's Roads and Parks operations, along with Fire Station 5 and the Fire Training Campus. The staff in the fleet services department assigned to manage the OFD fleet is currently comprised of 1.6 full-time equivalent (FTE) Emergency Vehicle Technicians (EVT) who are members of the CUPE 136 union. The current qualifications of the mechanics in fleet services assigned to work on the OFD fire apparatus are one Master EVT and one mechanic who is currently working towards the EVT certification. With the growing mechanical requirements of

the OFD fleet and to ensure some depth of coverage for EVT work in Oakville, it would be prudent for Oakville to ensure the mechanic who is currently in training for their EVT certification is supported where possible to complete the program in a timely manner.

The current work schedule of the EVT mechanics provides for daytime coverage during the week. During the evenings, a mechanic is on duty and can be called to assist with chassis-related issues. After hours, the Town relies on an on-call mechanic rotation to address fleet chassis issues. If a fire apparatus-related issue arises above and beyond a chassis issue during the evening or overnight, the issue must wait until the EVT is back on duty in the morning.

Fleet Services is responsible for the inspection, maintenance and repairs of all fire service pumpers, squads, rescues, aerials, and other fire apparatus as well as the small fleet vehicles used by non-suppression division personnel. Additional responsibilities of the Fleet Services to support the fire department are:

- Ordering/returning mechanical parts and supplies;
- Inventory and parts control;
- Providing stores supply services for the fire station's janitorial and other station needs; and
- Coordinating the maintenance and repair of the department's landscaping equipment (garden tractors/push mowers/grass trimmers).

Managing the current repairs and maintenance workload of the EVTs is quite challenging as the workload can frequently exceed the capacity of the 1.5 mechanic positions available. This challenge is only expected to increase as the department's fleet grows. Fire services in general are experiencing increased downtime and maintenance needs due to the complexities of modern fire apparatus. This is currently being observed in Oakville. It is important to keep a watchful eye on the division's workload and its impact on the timing of repairs and maintenance and monitor it closely on an ongoing basis.

Currently, the OFD is responsible for several fleet-related tasks. The Deputy Fire Chief of Training oversees the outsourcing of various equipment and apparatus related tasks, including service, inspection, and testing. Among the most significant outsourced services are:

- Developing fire apparatus specifications for Tender or Request for Proposal (RFP);
- Co-ordination of ground ladder, aerial ladder testing;
- Co-ordination of annual pump testing; and
- Coordination of vehicle rust proofing.

Additional responsibilities that fall to other members of the fire department are:

- Ordering the replacement of fire specific equipment for suppression and training apparatus;
- Arranging equipment repair, both small equipment and large equipment;
- Coordinating annual service for heavy hydraulic tools;
- Overseeing the scheduled maintenance of station emergency generators; and
- Providing fire related stores provision for the department.

The additional maintenance and work being done by the Deputy Fire Chief of Training and other fire department staff adds to their current heavy workload and these tasks could be managed by an EVT in Fleet Services and Roads and Works Operations stores department.

In our view, the OFD would benefit from Fleet Services increasing the 1.6 FTE EVTs to 2.0 FTEs. The addition of the 0.4 FTE would assist with the current and future workload of the Fleet Services to support a growing OFD and their mechanical fleet requirements. The fleet services work the OFD currently performs could be accommodated by the second full EVT position. In addition to taking on additional work from the OFD, when the second full-time EVT position becomes filled, it would be beneficial to have the second EVT work the afternoon shift to increase the available time for the maintenance of the fire fleet and equipment. This additional full EVT will be an asset as the Town of Oakville proactively plans and manages the additional maintenance requirements of the fire fleet and equipment. In summary, this is being driven by:

- the growth of the fire department to meet the growth in the community;
- the ageing of the fleet due to wear and tear resulting from increased call volume; and
- the maintenance of modern-day fire apparatus increasingly becoming more complex due to computerization and potential ‘greening’ of the fire fleet.

Recommendation #19: That the Town of Oakville consider increasing the 1.6 FTE EVT positions to 2.0 FTEs to manage the additional services as recommended in this FMP.

Operational Recommendation #39: That the Town of Oakville consider transitioning the fleet services and stores activities currently being performed by fire department staff to the fleet operations and stores divisions.

Our review of fleet services indicates that the services provided by this division are working well, however, the EVTs are members of the CUPE 136 union. This can be problematic for the OFD if the CUPE union decides to strike. This would leave the OFD to seek out private repair services at a considerably increased labour and parts rate, with increased uncertainty for timeliness to get the repairs looked at and completed. Consideration could be given to transitioning the EVTs to the OPFFA.

This can be a complex issue, but it could touch on salaries, EVT retention, union issues and potentially facility needs. A more thorough analysis, including stakeholder discussions would need to be considered prior to making this change.

10.6 Equipment

The Oakville Fire Department is a large modern fire service that requires an extensive inventory of equipment such as firefighter protective clothing (bunker gear), SCBA firefighting hose and nozzles, ladders, automobile extrication tools and many specialized pieces of equipment required for the specialized rescue services provided. The Deputy Chiefs of Training and Suppression share the responsibilities for the acquisition of and maintenance of firefighting equipment. The OFD has established a number of standard operating procedures related to the maintenance and testing of equipment.
SOP 6-8 Apparatus and Vehicle Inspection and Maintenance identifies the procedure to document the inspection as well as the fault reporting process to address the problem(s) or concern(s) with a piece of equipment or apparatus.

NFPA 1851 Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting (2019) has recently been released. The recommended practice identified within the standard requires maintenance and cleaning of bunker gear to occur twice per year. Furthermore, the standard specifies the use of an extractor for gear cleaning (technical requirements set forth in NFPA 1851).

Bunker gear maintenance in Oakville is continuously occurring throughout the year and their annual cleaning testing repair and certification is contracted to an outside company. Currently every firefighter in Oakville is issued two sets of bunker gear and they are replaced and taken out of service on a ten-year rotation schedule. Standard Operating Guide (SOG) 7-1 Cleaning, Inspection and Maintenance of Firefighting Clothing and Equipment identifies the procedures to be followed for inspecting personal protective equipment, in house cleaning procedures and identifying the process for sending the PPE out for repairs. The Oakville fire department has been proactive throughout the past 15 years in acquiring extractors and dryer systems for every fire station with the exception of Station 5 and Station 4. Station 5 is located on the same site as the OFD Training Campus which is equipped with the extractor and dryer systems for the cleaning of PPE. Station 4 due to its age and building configuration does not have an extractor or dryer and staff are to make the necessary arrangements through their PC to have their gear cleaned at one of the other stations.

10.7 Records Management

The records management system the Town of Oakville's Fleet Services relies on for the OFD staff to report fleet deficiencies is the CIS RMS. This ensures the EVT is aware of the vehicle/apparatus/ equipment issue and/or can report an out of service condition.

The fire department utilizes the "Check-It" software to manage daily apparatus checks to document their start of shift inspection to comply with Schedule 1 O. Reg. 199/07 and document issues found during the apparatus inspection check. Any issues documented in the Check IT software are then required to be entered into the CIS RMS program which documents faults on the equipment and or vehicles. This software then generates an automated email to the responsible party who would manage or is responsible to correct the issue. It the case of mechanical defect with a fire apparatus or small fleet, the email would be sent to the attention of the EVT, and the Deputy Fire Chiefs of Training and Suppression who are copied on the email.

Integration of the two systems would be beneficial in increasing efficiency and reduce the duplication of effort by the fire department personnel in identifying a fault and documenting it. It is recommended that the OFD investigate and consider software solution to integrate the two systems for seamless one stop documentation of faults for fire vehicles and equipment.

The OFD maintains a number of SOPs that detail maintenance, testing and process for reporting repairs of various pieces of fire related equipment. A review of the SOPs indicated they have been in place for many years with the majority of the SOGs implemented in 2009 through 2013. It is recommended that the OFD review the equipment related SOPs for any potential updates in procedures or industry best practices.

Operational Recommendation #40: That the Town of Oakville consider a software solution which integrates the truck check software with the fault reporting software as identified in this FMP.

Operational Recommendation #41: That the OFD review, revise and update the equipment related SOPs to ensure they are up to date with industry best practices.

10.8 Respiratory Protection Program

The Ontario Section 21 Guidance Note #4-9 Respiratory Protection Program, identifies that employers should develop and implement a respiratory protection program and appoint a program administrator. The Guidance Note also references what a respiratory protection program should address, such matters as: program administration, documentation, and evaluation; program administrator training; training of persons administering fit testing; and selected and use of respirators.

The OFD implemented a Respiratory Protection Program and the associated SOPs to manage the program in 2004 which brought them in line with the OH&SA Section 21 Guidance Note 4-9. Our research indicates the Respiratory Protection Program SOPs were last reviewed in 2021 which complies with best practice for the review and revision of SOPs.

The OFD has a full time Suppression Technician who is responsible for the management of SCBA in compliance with the OFD's Respiratory Protection Program. This position's primary responsibility is to diagnosis, repair of SCBA and all administrative activities to support the SCBA maintenance program as well as oversee the maintenance and repairs SCBA air filling compressors.

Additional duties may include:

- Assisting with making arrangement for repairs of Oakville Fire Department personnel bunker gear and bunker gear bags;
- Assisting with the validation of the acceptance fitting of new bunker gear;
- Assisting with battery maintenance program;
- Assisting with the delivery and pick-up of various emergency vehicles;
- Assist with performing monthly inspections and re-calibration of portable multi-gas detection apparatus and related instrumentation;
- Assist with the inspection and arrangements for the repair hoses, ladders, air bags and other safety and rescue equipment;
- Assist with the testing and maintaining HazMat suits;
- Supporting the stock person as required;
- Capable of operating trucks, snowplows, etc. in a safe and efficient manner; and
- Performing other duties as assigned.

10.9 Fleet and Equipment Summary and Recommendations

With the support of Council, the OIFD has developed a modern fleet of firefighting apparatus that reflects the fire risks present within the community. This FMP includes options for consideration that will further increase the effectiveness and efficiency of the OFD's capabilities.

There is an existing need to consider additional resources in this area. In our view, adding 0.4 FTE to the existing 1.6 FTE EVTs would assist in managing the current workload while building capacity for future expansion of the apparatus fleet and equipment.

10.9.1 Recommendations

Recommendation #18: That the Town of Oakville consider increasing the number of service-ready reserve units to ensure the council-approved level of service is maintained.

Recommendation #19: That the Town of Oakville consider increasing the 1.6 FTE EVT positions to 2.0 FTEs to manage the additional services as recommended in this FMP.

10.9.2 Operational Recommendations

Operational Recommendation #38: That the Town of Oakville monitor the kilometres, maintenance and repair budgets of the fleet to determine if adjustments in the replacement schedule are required.

Operational Recommendation #39: That the Town of Oakville consider transitioning the fleet services and stores activities currently being performed by fire department staff to the fleet operations and stores divisions.

Operational Recommendation #40: That the Town of Oakville consider a software solution which integrates the truck check software with the fault reporting software as identified in this FMP.

Operational Recommendation #41: That the OFD review, revise and update the equipment related SOPs to ensure they are up to date with industry best practices.

11.0 Proposed Implementation Plan

This implementation plan is intended to provide staff and Council with an initial outline of the proposed schedule and high-level cost estimates for implementing the recommendations and strategies contained within this FMP. Subject to Council's consideration of the proposed FMP, it is recommended that the Fire Chief be directed to develop a comprehensive implementation plan for consideration by Council. Where applicable, those recommendations with a financial impact would be presented as part of regular corporate process to prepare the annual operating and capital budgets of the Town.

This FMP proposes an implementation plan schedule with the following horizons: immediate term (0 to 1 year), short-term (2 to 4 years), medium-term (5 to 7 years) and long-term (8 to 10 years). These timelines will be impacted by the realization of predicted growth and development.

Industry best practices indicates that a FMP should be based on a ten-year community planning horizon, and that at the mid-point (i.e., year five) the plan should be reviewed to consider any revisions that may be required to address new, or revised legislation, updated community planning projections, and the progress of implementing the recommendations presented within this FMP.

11.1 Recommendations

As introduced in Section 3.4 Recommendations require consideration and approval beyond the authority of the Fire Chief, as they relate to a potential operating or capital financing impact or inform a municipal policy decision, including the setting of a municipal service level or where further direction to corporate staff may be needed. Table 32 summarizes the Recommendations included within this proposed FMP.

Table 32: FMP Recommendations and Implementation

No.	Recommendation	Estimated Operating Costs	Estimated Capital Costs	Time Horizon
1	That the fire strategic goals presented within the proposed FMP be adopted in principle by Council to guide all decision-making related to the delivery of fire protection services within the Town of Oakville.	No identified costs	No identified costs	Immediate priority (0 to 1 year)
2	That consideration be given to the reorganization of the Administrative Support team as identified in within this FMP.	$90 K (Net one new administrative support position and salary increase for Office Manager position)	$3 K (computer/office equipment)	Dedicated administrative support positions for Training Division and Fire Prevention Division – Immediate priority (0 to 1 year) Remaining reorganization – short-term (2 to 4 years)
3	That the Town of Oakville review the workload required to sustain the Emergency Management program, along with the Town's Emergency Management objectives, and consider adding staff resources to manage the Emergency Management program as presented in this FMP.	$50 K to $70 K	$5 K	Review Workload – Immediate priority (0 to 1 year) Hire additional resource – Short-term (2 to 4 years)
4	That as part of the reorganization of the Administrative Support Team the OFD convert the 0.5 FTE Fire Prevention/Public Education Division administrative position (currently shared with Training) to a FTE administrative role dedicated to support the Fire Prevention/Public Education Division.	Included within Recommendation 2	Included within Recommendation 2	Immediate priority (0 to 1 year)
5	That the Town of Oakville incorporate the Fire Prevention Division space requirements in the future design of Fire Station 9 as outlined in this FMP.	Included in overall operating costs of future Station 9	Incorporated in overall capital costs of future Station 9	Align with ongoing design of Station 9
6	That consideration be given to developing a Community Risk Reduction Plan as an all-inclusive approach to reducing risk within the Town, as presented within the proposed FMP.	No identified additional costs	$50 K	Short-term (2 to 4 years)
7	That consideration be given to hiring one additional Fire Prevention Officer in the short term (one to three years) to cover the district currently assigned to the CFPO as recommended in this FMP.	$155 K	$60 K (uniform, equipment, and light vehicle)	Short-term (2 to 3 years)

No.	Recommendation	Estimated Operating Costs	Estimated Capital Costs	Time Horizon
8	That as part of the reorganization of the Administrative Support Team the OFD convert the 0.5 FTE Training Division administrative position (currently shared with Fire Prevention) to a FTE administrative role dedicated to supporting Training Division and RTC duties.	Included within Recommendation 2	Included within Recommendation 2	Immediate priority (0 to 1 year)
9	That any future upgrades to the OFD's training facility prioritize increasing available classroom space, modernizing the washroom and kitchen facilities, providing permanent equipment storage solutions, parking, and an expanded apparatus bay that could also serve as an indoor training environment.	No additional costs identified	Costs to be determined. Replacement costs to be incorporated into Asset Management Plan for Training Facility. Potential skills development grants, training user fees, etc.	Align with Asset Management Planning, OFD facility planning and training requirements / skills development needs.
10	That OFD increase its training staff complement by one FTE position in the immediate term to oversee routine professional development and core skills maintenance of suppression staff, and that OFD consider the addition of a second FTE position in the mid-term horizon to maintain its instructor to firefighter ratio and to oversee the department's company officer program.	$166 K per FTE	$10 K (uniform/equipment) per FTE	First FTE – Immediate priority (0 to 1 year) Second FTE – Mid-term (5 to 7 years)
11	That consideration be given to adopting and sustaining a ratio of 1.33 (minimum on-duty firefighters to total complement of firefighters), applied per platoon. Applying the ratio to maintain the existing minimum staffing of 44 requires an approved minimum complement of 59 per platoon.	Calculated for recommendations that increase the on duty minimum staffing	Calculated for recommendations that increase the on duty minimum staffing	Immediate priority (0 to 1 year)
12	That consideration be given to hiring 16 firefighters to increase the staffing of the two existing rescue units to four firefighters. (As per Recommendation 11 staffing levels apply a 1.33 ratio of minimum on-duty firefighters to total complement of firefighters, applied per platoon)	$2.24 M (See Table 33: Suppression Options for Consideration for details)	$160 K (See Table 33: Suppression Options for Consideration for details) $1 M for Station 5 renovation (based on 2024 condition assessment) and expansion to accommodate additional on-duty personnel staffing rescue unit	Immediate priority (0 to 1 year) to Short-term (2 to 3 years). Potential to phase implementation over 18 months to two years.
13	That the Fire Chief and staff begin to identify for Council potential properties in the vicinity of the intersection of Trafalgar Road and Dundas Street East for the location of a future tenth fire station.	No additional costs identified	$8 M (assume 1.5-acre site)	Immediate priority (0 to 1 year)

No.	Recommendation	Estimated Operating Costs	Estimated Capital Costs	Time Horizon
14	That the Town of Oakville plan for the design, construction and staffing of a tenth fire station in the short to mid-term horizon of this FMP, aligned with the growth and intensification planned for this area. (As per Recommendation 11 staffing levels apply a 1.33 ratio of minimum on-duty firefighters to total complement of firefighters, applied per platoon)	$3.36 M (See Table 33: Suppression Options for Consideration for details)	$15.64 M (See Table 33: Suppression Options for Consideration for details)	Mid-term (5 to 7 years), aligned with development, growth and intensification
15	That the Fire Chief and staff investigate options for Council approval to acquire or identify potential properties in the vicinity of South Service Road and Davis Road, or the existing Town Hall site, for the location of a future eleventh fire station.	No additional costs identified	$21.5 M (assume 1.5-acre site)	Immediate priority (0 to 1 year)
16	That the Town of Oakville plan for the design, construction and staffing of an eleventh fire station in the mid to long-term horizon of this FMP, aligned with the growth and intensification planned for this area. (As per Recommendation 11 staffing levels apply a 1.33 ratio of minimum on-duty firefighters to total complement of firefighters, applied per platoon)	$2.8 M (See Table 33: Suppression Options for Consideration for details)	$16.6 M (See Table 33: Suppression Options for Consideration for details)	Long-term (8 to 10 years), aligned with development, growth and intensification
17	That Oakville Fire Department initiate a phased approach to implementing a District Chief model, with the first phase starting in the short-term of this FMP.	$700 K (Estimate $175 K per platoon. Costs to be determined with creation of the position.)	$240 K (Estimated $60 K per FTE, 1 per platoon, for uniform, equipment and light vehicle)	Immediate priority (0 to 1 year). Second phase of District Chief model to be reviewed and confirmed in five-year update of the FMP.
18	That the Town of Oakville consider increasing the number of service-ready reserve units to ensure the council-approved level of service is maintained.	Minimal additional costs anticipated	Accommodate apparatus cost within capital replacement process of existing fleet. Additional equipment costs of approximately $200 K	Short-term (2 to 4 years)
19	That the Town of Oakville consider increasing the 1.6 FTE EVT positions to 2.0 FTEs to manage the additional services as recommended in this FMP.	$50 K	No additional costs identified	Short-term (2 to 4 years)

Table 33: Suppression Options for Consideration

Description of Strategy/ Scenario Modelled	Estimated Operating Costs	Estimated Capital Costs	Schedule by Time Horizon
Enhance Existing Total Response Time	No identified additional costs	No identified additional costs	Immediate term (0 to 1 year)
Scenario 1 – Enhance Staffing on Existing Rescue Units (Increase Minimum Staffing to Four Firefighters)	Hire 16 Firefighters (16 x $140 K) = $2.24 M	Firefighter Uniforms/PPE (16x $10 K) = $160 K Station 5 renovation = $1 M Total Capital = $1.16 M	Immediate priority (0 to 1 year) to Short-term (2 to 3 years)
Scenario 2 – Add Future Station 10 and Front-Line Apparatus (Model-Selected Location)	Hire 24 Firefighters (24 x $140K) = $3.36 M	Station Land Purchase = $8 M Station Design = $1 M Construction = $13 M Additional Frontline Apparatus = $1.4 M Firefighter Uniforms/PPE (24x $10 K) = $240 K Total Capital = $23.64 M	Land Acquisition: Immediate term (0 to 1 year) Station Design, Construction, Staffing: Mid-term (5 to 7 years)
Scenario 3 – Add Station 10 (from Scenario 2) and add Station 11 and Front-Line Apparatus	Hire 20 Firefighters (20 x $140K) = $2.8 M	Station Land Purchase = $21.5 Station Design = $1 M Construction = $14 M Additional Frontline Apparatus = $1.4 M Firefighter Uniforms/PPE (20 x $10 K) = $200 K Total Capital = $38.1 M	Land Acquisition: Immediate term (0 to 1 year) Station Design, Construction, Staffing: Mid-term (5 to 7 years) Long-term (8 to 10 years)
Scenario 4 – Add Station 10 (from Scenario 2) and add Station 11 and Front-Line Apparatus (Existing Town Hall Location)	(Same as Scenario 3)	(Same as Scenario 3)	Land Acquisition: Immediate term (0 to 1 year) Station Design, Construction, Staffing: Mid-term (5 to 7 years) Long-term (8 to 10 years)
Phased Implementation of District Chief Positions	$175 K per platoon, 4 total FTE = $700 K	$60 K (uniform, equipment and light vehicle), per FTE (4 total, 1 per platoon) = $240 K	Immediate priority (0 to 1 year)

11.2 Operational Recommendations

As introduced in Section 3.4, Operational Recommendations can be administered and implemented by the Fire Chief through the authority delegated to this position through By-Law 2020-078. In some cases, this may require the Fire Chief to prepare further documentation and internal reporting to Council for approval. An example of this is updating the current Establishing and Regulating By-law. This is a process that can be led by the Fire Chief, and senior corporate staff, and through normal reporting, be brought to Council for consideration and approval. The timing and costing associated with implementing the operational recommendations will be developed and incorporated within the Fire Chief's Work Plan.

The Operational Recommendations are summarized below in Table 34.

Table 34: FMP Operational Recommendations

No.	Operational Recommendation
1	That the job descriptions for Oakville Fire Department's Senior Management Team be reviewed and revised to clearly define the roles and responsibilities for their current duties.
2	That the job descriptions for all positions covered by the Oakville Professional Firefighters Association be reviewed and updated.
3	That subject to Council's consideration and approval of the FMP, the Establishing and Regulating By-law 2019-071 be reviewed and updated as required.
4	That subject to Council's consideration and approval of the FMP, the Appointment By-Law 2020-126 be reviewed and revised as required to reflect the current Deputy Fire Chief appointments for the Town of Oakville.
5	That subject to Council's consideration and approval of the proposed FMP, that the Fire Chief prepare a report for Council's consideration to receive the Regional Mutual Aid Plan and pass an updated By-law authorizing the OFD's participation in said plan.

No.	Operational Recommendation
6	That the OFD perform a review of actual time spent to perform the associated tasks outlined in the Fees for Service schedule and the current rates based on recovery of staff time.
7	That the OFD review the 2017 Regional Mutual Aid Plan and update the relevant Oakville Fire Department information.
8	That the Town of Oakville negotiate references to NFPA 1225 into the next term of the agreement for the Dispatch Service Agreement with the City of Burlington.
9	That the OFD establish fire suppression comparator performance benchmarks for the defined urban area based on NFPA 1710 and to use them to monitor and report to Council and the community.
10	That the OFD prepare and submit an annual report to Council.
11	That OFD develop and implement a mental health and wellness support program.
12	That the OFD seek to procure a new Records Management System software program as identified in this FMP.
13	That the OFD investigate the creation of an interface between Telestaff and the Town's financial software to automate the administrative tasks as identified in this FMP.
14	That the OFD develop a department policy, consistent with the Town's Retention By-law 2021-130, that describes the required records management practices for each division within the OFD.
15	That consideration be given to revising the appointment of the CEMC as presented within the proposed FMP.
16	That the CFPO's day to day responsibilities do not include coverage of a district as outlined in this FMP.
17	That the Oakville Fire Department undertake a review of the Fire Protection and Emergency Management Policy (Corporate Policy MF-FPS 001), Fire Prevention Procedure (Corporate Procedure MF-FPS-001-001), and OFD Fire Prevention Policy (Policy #4-5) as outlined in this FMP.
18	That the OFD establish a standard operating procedure to formalize the process of receiving and managing fire safety requests and complaints.

No.	Operational Recommendation
19	That the OFD acquire a Records Management System that is capable of storing and exporting reliable and valuable data on the Fire Prevention Division's activities as identified in this FMP.
20	That the OFD develop a NFPA 1035–Fire and Life Safety Educator I and NFPA 1031–Fire Inspector I training program as part of the recruit firefighter training program and/or part of the officer development training program to enable the Suppression Division to enhance the delivery of the first two lines of defence as outlined in this FMP.
21	That the OFD establish a standard operating procedure to identify the goals, objectives, and procedures for the Home Awareness Program.
22	That the OFD establish a standard operating procedure to identify the procedure to be followed by suppression crews if a missing or defective smoke/ carbon monoxide alarm is identified by the OFD.
23	That the Oakville Fire Department consider the implementation of a proactive fire inspection program as outlined in this FMP.
24	That consideration be given to the development and implementation of a Pre-planning Program as outlined in the FMP.
25	That consideration be given to developing an enhanced investigation and reporting strategy whereby data gathered through the fire origin and cause can be used for the purposes of developing and implementing public education and fire prevention initiatives as presented in the proposed FMP.
26	That consideration be given to implementing the proposed enhanced Home Awareness Program focusing on missing or defective smoke detectors as outlined in the FMP.
27	That consideration be given to enhancing the tracking of all workloads associated with the OFD fire inspection and enforcement programs as presented within the proposed FMP.
28	That consideration be given to enhancing the fire safety program for seniors (65+) within the community as presented within the proposed FMP.
29	That consideration be given to implementing a targeted public education program around carbon monoxide and false alarm incidents as presented within the proposed FMP.

No.	Operational Recommendation
30	That consideration be given to enhancing the tracking of all workloads associated with the OFD public education programs as presented within the proposed FMP.
31	That the OFD continue to provide NFPA Pro-Qual training courses through its established RTC, with ongoing review of the administrative and operational costs associated with outside student enrollment to adjust student fees accordingly.
32	That the OFD continue to use in-house certification initiatives with the OFM's AS&E testing in addition to the more formal courses offered through the department's RTC.
33	That OFD develop and implement a formal Inclusion, Diversity, Equity and Accessibility (IDEA) program.
34	That OFD revisit its training compliance and record keeping systems to ensure that assigned training is properly recorded as outlined by Section 21 Guidance Note #7-3 Training Plans.
35	That the OFD investigate the feasibility of renovating and installing power vents in the bunker gear storage areas as identified in this FMP.
36	That the OFD prioritize the implementation of a process to record, monitor and understand the impacts of the vertical response performance for all emergency responses to incidents at high-rise buildings to inform future department planning.
37	That the OFD investigate options to enhance the existing turnout times as a strategy to further reduce the existing total response time of the OFD.
38	That the Town of Oakville monitor the kilometres, maintenance and repair budgets of the fleet to determine if adjustments in the replacement schedule are required.
39	That the Town of Oakville consider transitioning the fleet services and stores activities currently being performed by fire department staff to the fleet operations and stores divisions.
40	That the Town of Oakville consider a software solution which integrates the truck check software with the fault reporting software as identified in this FMP.
41	That the OFD review, revise and update the equipment related SOPs to ensure they are up to date with industry best practices.

Appendix A

Public Consultation Summary

Public Consultation Summary

This appendix provides additional details of the external consultation tasks, including the online public survey and the targeted stakeholder interviews.

Online Public Survey

Dillon Consulting Limited (Dillon) worked with Town of Oakville (Town) and Oakville Fire Department (OFD) staff to develop an online survey as part of the Fire Master and Plan (FMP).

The goals of the survey were firstly, to educate the public about their responsibilities with regards to fire safety, and secondly, gain an understanding of what their knowledge is, and what their experiences have been, in relation to the fire department. Residents were made aware of the survey through the Town's website.

Access to the survey was open from August 28 to October 30, 2023. During this time a total of 143 participants provided feedback.

The following is a summary of the online public survey responses:

- Participants were most familiar with the Oakville Fire Department providing services in three main areas. These areas were responding to fire incidents, medical emergencies, and providing fire safety education in schools. The fact that the OFD conducts building plan reviews of new developments had the lowest level of awareness.
- Within the past five years, 97 (72.9%) of the participants stated that they had not been involved with an emergency response call provided by the OFD while 31 participants (23.3%) had been involved with an emergency response call provided by the OFD. Five participants (3.8%) were unsure of whether or not they had been involved in an emergency response call.
- Of the participants that had been involved in an emergency response call provided by the OFD in the past five years, common comments on the interaction included:
    - Quick response time, often the fire department personnel were the first to arrive at the scene. Great to deal with, friendly, kind and professional;

  - Many of the calls were made due to a medical emergencies; and
  - Firefighters provided excellent service and were professional.
- Further to the comments above, when participants were asked if they were satisfied with the emergency response service that OFD provided, 26 (76.5%) responded that they were very satisfied and another 5 (14.7%) answered that they were satisfied. Five participants (2.9%) responded "neutral," and there was one response each for both dissatisfied and very dissatisfied.
- When asked if services related to fire prevention or public education (e.g., home smoke alarm check by fire fighters, information through social media, fire inspections, community events, etc.) have been provided to them by the OFD, the response with the most answers (84 participants, 69.4%) was "No". The response with the second most answers (33 participants, 27.3%) was "Yes", followed by "unsure" with four responses (3.3%).
- Of the participants that had received services related to fire prevention or public education by the OFD in the past five years, common comments on the interaction included:
  - Participants received education from OFD booths at community events and a fire prevention week event;
  - Fire safety education was provided at fire safety events at local schools; and
  - In some cases OFD staff visited homes to conduct home smoke and C02 alarm checks.
- When participants were asked how they would like to receive public safety information from the OFD, the most common answer was through the Town of Oakville Website – Oakville.ca (61 participants, 60.4%) followed by OFD presence at community events (58 participants, 57.4%). The least common ways of how participants wished to receive information was "Social Media, Other" (11 participants, 10.9%) and more generally "Other" (12 participants, 11.9%), such as Instagram and public service announcements.
- 102 (90.3%) participants stated that they have smoke alarms on every storey of their home. Seven respondents (6.2%) stated that they do have smoke alarms, however, only on one storey of their residence. One participant stated that they did not have a smoke alarm.

- 89 participants (79.5%) stated that they have a carbon monoxide detector near all sleeping areas and eight participants (7.1%) have at least one carbon monoxide detector in their place of residence. Three participants (2.7%) did not have a carbon monoxide detector, one of which stated they would get one after completing the survey. Eight (7.1%) responded that this did not apply to their situation.
- Regarding a fire escape plan (or home escape plan), 26 participants (23.2%) responded that they do have one and it has been practiced with the entire household. 43 participants (38.4%) responded that they do have one but have not practiced it. 20 participants (17.9%) answered that they do not have a fire escape plan, but after completing this survey they will prepare and practice one. 22 participants (19.6%) stated that they do not have an escape plan.
- Regarding an emergency preparedness plan and/or kit, 25 participants (22.5%) answered that their household was not prepared in the event of a community emergency, but after completing this survey they will get better prepared. Whereas 30 participants (27.0%) simply responded "no." 17 participants (15.3%) answered that they have an emergency action plan. 29 participants (26.1%) answered that they do have an emergency action plan and a 72-hour emergency kit.

Virtual Community Information Open House

A Community Information Open House was held via Zoom on October 26, 2023, to provide an overview of the Community Risk Assessment and Fire Master Plan project. The meeting included over 30 participants. A presentation was delivered by the project manager from Dillon Consulting and the participants were provided with an opportunity to ask questions. The following topics were presented:

- General definition of a Fire Master Plan;
- Definition and legislative background on Community Risk Assessments in Ontario;
- The CRA/FMP project process;
- An overview of CRA findings;
- Highlights of community responsibilities for fire safety;
- Oakville Fire Department overview;
- Details of how to participate in the online public survey; and
- Questions.