DILLON CONSULTING

75 YEARS

TOWN OF CALEDON

Fire Master Plan

Final Report

November 25, 2020 – 20-2879

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Acronyms

A.H.J.	Authority Having Jurisdiction
A.T.P.	Annual Training Program
B.C.I.N.	Building Code Identification Number
C.A.C.C.	Central Ambulance Communications Centre
C.A.T.P.	Comprehensive Annual Training Program
C.E.M.C.	Community Emergency Management Coordinator
C.E.R.P	Community Emergency Response Plan
C.F.A.I.	Commission on Fire Accreditation International
C.F.S.E.M.	Comprehensive Fire Safety Effectiveness Model
C.F.E.S.	Caledon Fire and Emergency Services
C.F.P.O.	Chief Fire Prevention Officer
C.I.	Critical Infrastructure
C.O.	Carbon Monoxide
C.P.C.	Commission on Professional Credentialing
C.P.S.E.	Centre for Public Safety Excellent
C.R.A.	Community Risk Assessment
C.R.R.P.	Community Risk Reduction Plan
C.R.T.C.	Canadian Radio-television and Telecommunications Commission
C.T.M.	Critical Task Matrix
E.C.G.	Emergency Control Group
E.M.C.P.A.	Emergency Management and Civil Protection Act
E.O.C.	Emergency Operations Centre
F.I.	Fire Inspector
F.M.P.	Fire Master Plan
F.M.T.	Fire Management Team
F.P.P.A.	Fire Protection and Prevention Act (1997)
F.U.S.	Fire Underwriters Survey™
G.G.H.	Greater Golden Horseshoe
G.I.S.	Geographical Information System
G.P.M.	Gallons Per Minute
H.I.R.A.	Hazard Identification Risk Assessment
I.A.F.F. Local 4686	Caledon Professional Fire Fighters' Association
I.D.L.H.	Immediately Dangerous to Life and Health

I.M.S.	Incident Management System
J.F.C.C.	Joint Fire Communications Centre
L/min.	Litres per Minute
M.T.O.	Ministry of Transportation Ontario
M.E.C.G.	Municipal Emergency Control Group
N.F.P.A.	National Fire Protection Association
N.F.P.A. Pro-Qual	National Fire Protection Association Professional Qualifications
N.I.S.T.	National Institute of Standards and Technology
O.B.C.	Ontario Building Code
O.F.C.	Ontario Fire Code
O.F.M.E.M.	Office of the Fire Marshal and Emergency Management
O.G.	Operating Guideline
O.H.S.A.	Occupational Health and Safety Act
O.P.	Official Plan
O.P.P.	Ontario Provincial Police
P.E.	Public Educator
P.P.E.	Personal Protective Equipment
P.F.S.G.	Public Fire Safety Guideline
P.R.P.S.	Peel Regional Paramedic Services
P.S.A.B.	Public Sector Accounting Board
R.I.T.	Rapid Intervention Team
S.C.B.A.	Self-Contained Breathing Apparatus
S.M.T.	Senior Management Team
S.T.O.	Station Training Officer
T.A.P.P.-C.	The Arson Prevention Program for Children
T.O.M.R.M.S.	The Ontario Municipal Records Management System
T.C.	Training Cadres
T.R.A.	Tiered Response Agreement
T.R.S.C.	Tiered Response Steering Committee
U.S.	United States

Executive Summary

This Fire Master Plan (F.M.P.) was developed at the request of Council to provide a strategic planning framework for the delivery of fire protection services within the Town of Caledon over the next ten-year community planning horizon. This F.M.P. is accompanied by a Community Risk Assessment (C.R.A.) that has been prepared on behalf of the Town to proactively respond to the requirements of the new Ontario Regulation 378/18 Community Risk Assessment (O. Reg. 378/18) enacted on July 1st, 2019.

The Town of Caledon is proactively completing the C.R.A. to inform this fire master planning process to comply with the mandatory requirements of this new regulation that state a municipality must "use its community risk assessment to inform decisions about the provision of fire protection services"[1]. The analysis within this F.M.P. has also considered the legislative requirements of the Fire Protection and Prevention Act, 1997 (F.P.P.A.), that defines a municipality's legislated responsibilities to provide fire protection services, including the requirement to "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"[2].

The analysis presented within this F.M.P. has been directly informed by a comprehensive stakeholder engagement process which included opportunities for public consultation, interaction with members of Council and the Mayor, consultation with senior municipal and fire department staff, as well as direct consultation with both the volunteer firefighters, and full-time firefighters and the Executive Board of the Caledon Professional Firefighters Association, Local 4686.

To further assist Council in determining the Town's "needs and circumstances," as defined by the F.P.P.A., this F.M.P. identifies four proposed strategic priorities.

[1] Ontario Regulation 378/18 Community Risk Assessments, Mandatory Use 1. (b)
[2] Fire Protection and Prevention Act, 1997 Part II Responsibilities for Fire Protection Services, Municipal Responsibilities, 2. (1) (a)(b)

These strategic priorities are intended to align Council's decision making process with the Comprehensive Fire Safety Effectiveness Model (C.F.S.E.M.) utilized by municipalities across the Province. The C.F.S.E.M. prioritizes public fire safety education as the first line of defence in mitigating and/or preventing a fire. The second line of defence includes the use of fire safety standards and enforcement as strategies 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 includes providing emergency response that includes fire suppression capabilities. Within the C.F.S.E.M. model the provision of fire suppression services is the "fail safe" in the event that the first two lines of defence are unable to prevent the fire.

The research conducted to prepare this F.M.P. clearly illustrates how the C.F.E.S. has evolved from its roots as a volunteer fire service that operated in a variety of pre-amalgamation models. In its current form, the C.F.E.S. is an example of a 'composite fire department' utilizing both volunteer and full-time staff resources to provide a wide range of fire protection services. Through the evolution to its current form, members of the C.F.E.S. have sustained a high degree of dedication and commitment to providing effective and efficient fire protection services.

In our view, the C.F.E.S. is at a pivotal point in its history. As with most fire departments across the country, the C.F.E.S. has historically prioritized the delivery of fire suppression (firefighting) services. The presence of this culture was clearly evident through the stakeholder consultation process involving both the volunteer and full-time firefighters. As indicated above, the new O. Reg. 378/18 identifies the need and importance of implementing risk mitigation and risk reduction strategies in support of the first two lines of defence identified within the C.F.S.E.M. Fire suppression (firefighting) services continue to be a necessary service, however historical evidence and current industry best practices fully support the need to enhance community fire safety through the delivery of more proactive fire prevention initiatives and public education programming. The proposed strategic priorities presented within this F.M.P. are intended to assist Council and all members of the C.F.E.S. in managing this evolution in delivering fire protection services and need for cultural change.

In addition to managing an evolution in fire protection services and cultural change, the C.F.E.S. is being challenged by rapid community growth. This growth includes a shift in building stock and fire risk from the community's historical roots of single-family dwellings to medium and high-density building stock and industrial/commercial growth. This includes row style condominiums and stacked townhouse to mid-rise 3 and 4 storey residential occupancies and large industrial/commercial occupancies. In response, this F.M.P. presents recommendations that focus on three primary initiatives that include enhanced use of processes and technology, optimization of existing staff resources and consideration of additional full time staff resources.

Subject to Council's consideration, this F.M.P. is intended to inform the development of clear goals and objectives for each of the programs and services provided by the C.F.E.S. to be included within an updated Establishing and Regulating By-law**.** This includes a clear description of the intended service level, process for implementation and requirements for the ongoing monitoring and reporting to Council and the community.

List of Council Recommendations:

1. That the strategic priorities presented within the proposed Fire Master Plan be adopted in principle by Council to guide all decision making related to the delivery of fire protection services within the Town of Caledon including that:

   i. The Town of Caledon is committed to the annual review of its Community Risk Assessment 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 Caledon Fire and Emergency Services.

   ii. The Caledon Fire and Emergency Services will prioritize the optimization of the first two lines of defence, including public education and fire prevention, and the utilization of fire safety standards and fire code enforcement as the foundation of providing a comprehensive fire protection program within the Town of Caledon.

   iii. The Caledon Fire and Emergency Services will specifically prioritize the delivery of fire and life safety programs in Group C- Residential Occupancies that include an enhanced Home Smoke Alarm/Carbon Monoxide Alarm Program.

   iv. The Town of Caledon will continue to prioritize strategies that support the sustainability of a 'composite fire department' and the delivery of fire protection services that provide the most effective and efficient level of services resulting in the best value for the community.

2. Consideration be given to hiring a third full-time Administrative Assistant to support the C.F.E.S.
3. Consideration be given to hiring an additional full-time Fire Prevention Officer within the short-term 1 to 3 year planning horizon.
4. Consideration be given to hiring an additional full-time Fire and Life Safety Educator within the mid-term 3 to 5 year planning horizon.
5. The Town of Caledon should strive to achieve a fire suppression deployment benchmark including a minimum of six firefighters responding within a 14 minute response time (turnout time + travel time) to 80% of the fire related incidents within the entire municipality.
6. The Town of Caledon should be striving to achieve a fire suppression deployment benchmark including a minimum of ten firefighters responding within a ten minute response time (turnout time + travel time) to 80% of the fire related incidents within the defined Mayfield West Rural Service Centre.
7. The Town of Caledon should be striving to achieve a fire suppression deployment benchmark including a minimum of ten firefighters responding within a ten minute response time (turnout time + travel time) to 80% of the fire related incidents within the defined Bolton Rural Service Centre.
8. The Town of Caledon hire the proposed full-time Assistant Deputy Fire Chief.
9. The Caledon Fire and Emergency Services continue to strive towards utilization of the proposed volunteer firefighter turnout time benchmarks.
10. The Fire Chief be given the authority to increase the total complement of volunteer firefighters at existing stations by up to a maximum of 10% of the existing Council approved total complement of 280 volunteer firefighters.
11. Consideration be given to further enhancing the current Volunteer Firefighter recruitment and retention program.
12. Consideration be given to implementing the proposed Volunteer Firefighter Remuneration Program.
13. Consideration be given to developing a financial plan and associated staffing strategy to hire the additional full-time firefighters that will be required to staff the proposed new Fire Station 310 and 311 as referenced in the proposed Fire Master Plan.
14. The Caledon Fire and Emergency Services further investigate the development and implementation of automatic aid agreements with surrounding communities.
15. That the Town of Caledon conduct further research into the utilization of alternative staffing models for the provision of fire suppression services, as referenced within the proposed Fire Master Plan.

16. The Town consider developing a major fire apparatus reserve fund as presented within the proposed Fire Master Plan.

List of Operational Recommendations:

1. The Fire Department Establishing, Maintaining, and Operating By-law No. 2014-075 be reviewed and updated as required.
2. The C.F.E.S. implement a regular process for updating all applicable by-laws.
3. The current Fire Protection Agreement with the Town of Mono be reviewed and updated as may be required.
4. The Fire Dispatch Agreement be updated to include the applicable N.F.P.A. 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems performance guidelines.
5. The C.F.E.S. prioritize the implementation of an Operating Guideline Committee including a defined terms of reference, and with the direction to prioritize the review of the Operating Guidelines referenced within the proposed Fire Master Plan.
6. The C.F.E.S. develop an Annual Report for presentation to Council and the public.
7. Consideration be given to prioritizing the development of a technology infrastructure plan and review of current administrative processes.
8. The C.F.E.S. investigate opportunities to further enhance the fire prevention and public education staff resource qualifications as referenced in the proposed Fire Master Plan.
9. The current Fire Prevention Policy be reviewed and updated and then presented to Council for consideration and approval and then included within an updated Establishing, Maintaining, and Operating By-law as an appendix.
10. The C.F.E.S. develop an operational guideline on the development, approval, review, required qualifications to develop/approve, and the use of Fire Safety Plans.
11. The C.F.E.S. review the current Home-Safe-Home Program to identify strategies to further enhance the effectiveness of this program in reducing the historical non-compliance of working smoke alarms in the Town of Caledon.
12. Consideration be given to expanding the social media capabilities of the C.F.E.S. to enhance its community social media outreach.
13. The C.F.E.S. further investigate opportunities to expand its current community partnership initiatives.
14. Consideration be given to enhancing the tracking of all workload associated with the C.F.E.S. public education programs as presented within the proposed Fire Master Plan.

15. Consideration be given to enhancing the fire safety program for seniors (65+) within the community as presented within the proposed Fire Master Plan.
16. A representative group of the volunteer firefighters be consulted in developing a staff resource plan to deliver the recommended enhanced Home-Safe-Home program across the Town.
17. The C.F.E.S. develop a strategy to optimize the utilization of qualified volunteer firefighters in delivering the department's public education program.
18. The C.F.E.S. optimize the utilization of full-time firefighters in delivering the proposed Enhanced In-Service Fire Safety Audits program.
19. All staff assigned to delivering the department's comprehensive annual training program be required to attain the applicable training staff qualifications presented within the proposed Fire Master Plan.
20. The C.F.E.S. investigate options to further enhance the utilization of online training.
21. The C.F.E.S. investigate opportunities to further enhance its Company Officer Training Program as referenced in the proposed Fire Master Plan.
22. The C.F.E.S consider developing a comprehensive annual training plan based on the N.F.P.A. Professional Qualifications Standards as presented within the proposed Fire Master Plan.
23. The C.F.E.S. continue to investigate options for developing automatic aid agreements for providing Specialized Rescue Services.
24. The C.F.E.S prioritize the implementation of succession planning opportunities.
25. The C.F.E.S. incorporate regular opportunities for joint training sessions amongst C.F.E.S. stations into its Comprehensive Annual Training Program.
26. The C.F.E.S incorporate annual opportunities for joint training sessions with mutual aid partners into its Comprehensive Annual Training Program.
27. That consideration be given to developing a comprehensive fire station/facility infrastructure needs assessment including a maintenance and replacement plan.
28. That consideration be given to developing a more formal asset management and replacement plan for all minor equipment utilized by the C.F.E.S.
29. That the current apparatus preventative maintenance and repair program be updated to comply with the applicable National Fire Protection Standards.

1.0 Introduction

On July 1st, 2019 the new Ontario Regulation 378/18: Community Risk Assessments (O. Reg. 378/18) came into effect in Ontario. This new regulation was enacted under the authority of the Fire Protection and Prevention Act, 1997 (F.P.P.A.) and requires every municipality in Ontario to develop a Community Risk Assessment (C.R.A.) prior to July 1st, 2024. This new regulation requires municipalities to "use its community risk assessment to inform decisions about the provisions of fire protection services"[3]. A C.R.A. is to be reviewed annually (which may identify the need for an update) and updated at least every five years.

At the direction of Council, the Town of Caledon (Town or Caledon) has chosen to proactively develop a C.R.A. as required by the new O. Reg. 378/18, and to utilize the findings of the C.R.A. to update the Town's current Fire Master Plan (F.M.P.). This F.M.P. and companion C.R.A. are presented as stand-alone documents to comply with the legislative requirements. However, these documents contain a fully integrated analysis with supporting options and recommendations to assist Council in its decision-making process to guide the delivery of fire protection services within the Town of Caledon over the next ten-year community planning horizon.

Within the Province of Ontario, the Fire Protection and Prevention Act, 1997, Occupational Health and Safety Act, R.S.O. 1990 (O.H.S.A.) and the new Ontario Regulation 378/18: Community Risk Assessments, contain legislative requirements related to the delivery of fire protection services by municipalities. Where applicable the analysis presented within this F.M.P. has considered the Town's legislative requirements, and where required, provides recommendations to address any gaps.

The analysis and methodology presented within this F.M.P. has also been informed by current industry best practices including Public Fire Safety Guidelines (P.F.S.G.s), authored by the Office of the Fire Marshal and Emergency Management (O.F.M.E.M.) and fire protection standards, authored by the National Fire Protection Association (N.F.P.A.).

[3] Ontario Regulation 378/18: Community Risk Assessments, Mandatory Use, Section 1 (b).

Completion of this Fire Master Plan 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 Purpose and Scope

The purpose of developing this F.M.P. is to provide Council with an independent, evidence-based analysis of the current fire protection services and programs being provided by the Caledon Fire and Emergency Services (C.F.E.S.). Utilizing the findings of the companion C.R.A., this fire master planning process is focused on updating the Town's current F.M.P. in response to the identified 'key findings' and 'identified risks' presented within the C.R.A.

The scope of this fire master planning process is summarized as:

- Completion of a companion Community Risk Assessment, as required by O. Reg. 378/18 and consideration of the 'key findings' and 'identified risks, presented within the C.R.A. to inform the analysis of the Town's current fire protection services
- Completion of a comprehensive stakeholder consultation process, including Council, senior Town staff, C.F.E.S. staff, the Executive of the Caledon Professional Firefighters Association Local 4686, representatives of the Town's volunteer firefighters, and community stakeholder groups
- Evaluation of all fire protection services and programs currently provided by the C.F.E.S. in comparison to the Town's legislative responsibilities and current industry best practices
- The identification of strategic priorities to guide Council's decision-making process related to the delivery of fire protection services; and
- The identification of options and recommendations to further inform Council's decision-making process in striving to achieve the most cost effective and efficient level of fire protection services resulting in the best value for the community

The primary objective of this F.M.P. is to present a comprehensive analysis of the Town's fire protection 'needs and circumstances' as defined by the F.P.P.A. to support decision-making with respect to the community's fire protection service and program needs.

3.0 Related Plans and Reports

The Town's current F.M.P. was informed by a number of related plans and reports that provided valuable background into understanding the strategic vision of the community and current delivery of fire protection services. The previous F.M.P. also considered a number of reports that were deemed applicable to informing the fire master planning process at that time. The following sections provide a high level overview introducing the specific relevance of the plans and reports that were considered in completing this F.M.P. update.

3.1 2018 – 2022 Council Work Plan

Council's 2018 – 2022 work plan provides valuable insight into the key priorities set by Council to guide all aspects of the municipality's activities, including policy and procedures and budget priorities during this term of Council. With the support of extensive public consultation this work plan focuses on the following four pillars:

- Sustainable Growth
- Connected Community
- Improved Service Delivery
- Good Governance

This F.M.P. includes proposed **'strategic priorities'** that are intended to further support these pillars.

3.2 2019 Fire Underwriters Survey™ (F.U.S. Report)

The “Fire Underwriters Survey™ is a national organization administered by Opta Information Intelligence, formerly C.G.I. Insurance Business Services, formerly the Insurers' Advisory Organization and Canadian Underwriters Association. F.U.S. provides data on public fire protection for fire insurance statistical work and underwriting purposes of subscribing insurance companies. Subscribers of Fire Underwriters Survey represent approximately 85 percent of the private sector property and casualty insurers in Canada”. In 2019, F.U.S. completed an update of the 2013 accreditation process of the Town of Caledon fire protection services for the primary purpose of fire insurance grading and classification. In summary, this report identifies that the Public Fire Protection Classification (P.F.P.C.) utilized by F.U.S. have remained the same since the previous assessment was completed.

3.3 2018 Fire Master Plan

In 2018, the C.F.E.S. completed both an internal and external fire master planning process. The resulting 2018 F.M.P. included proposed strategic priorities and recommendations that the C.F.E.S. has begun to initiate. However, the 2018 F.M.P. was prepared prior to the introduction of O. Reg. 378/18: Community Risk Assessments legislation. As such, this update presents an opportunity for the F.M.P. to be presented to Council with consideration of updated growth information and the new regulation.

As directed by Council, this current fire master planning process utilizes the analysis and recommendations presented within the 2018 F.M.P. as the baseline for assessing the current fire protection services and programs provided by the C.F.E.S. Where applicable, ‘key findings’ and ‘identified risks’ presented within the companion C.R.A. have been integrated into the update of the analysis presented within the 2018 F.M.P.

4.0 Fire Master Planning Process

This F.M.P. is informed by **P.F.S.G. 03-02-13 Master Planning Process for Fire Protection Services,** including an analysis of community fire risk and future community growth. The efficiency and effectiveness of each division within the C.F.E.S. has been analyzed, along with emergency response and fire station locations, staffing resources and deployment procedures, fire prevention and public education programs, apparatus and all related requirement, and service agreements. In our view, the guiding principles of P.F.S.G. 03-02-13, including the following, are applicable to this fire master planning process:

- 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
- Those responsible must work within these parameters in making recommendations for improving municipal fire services

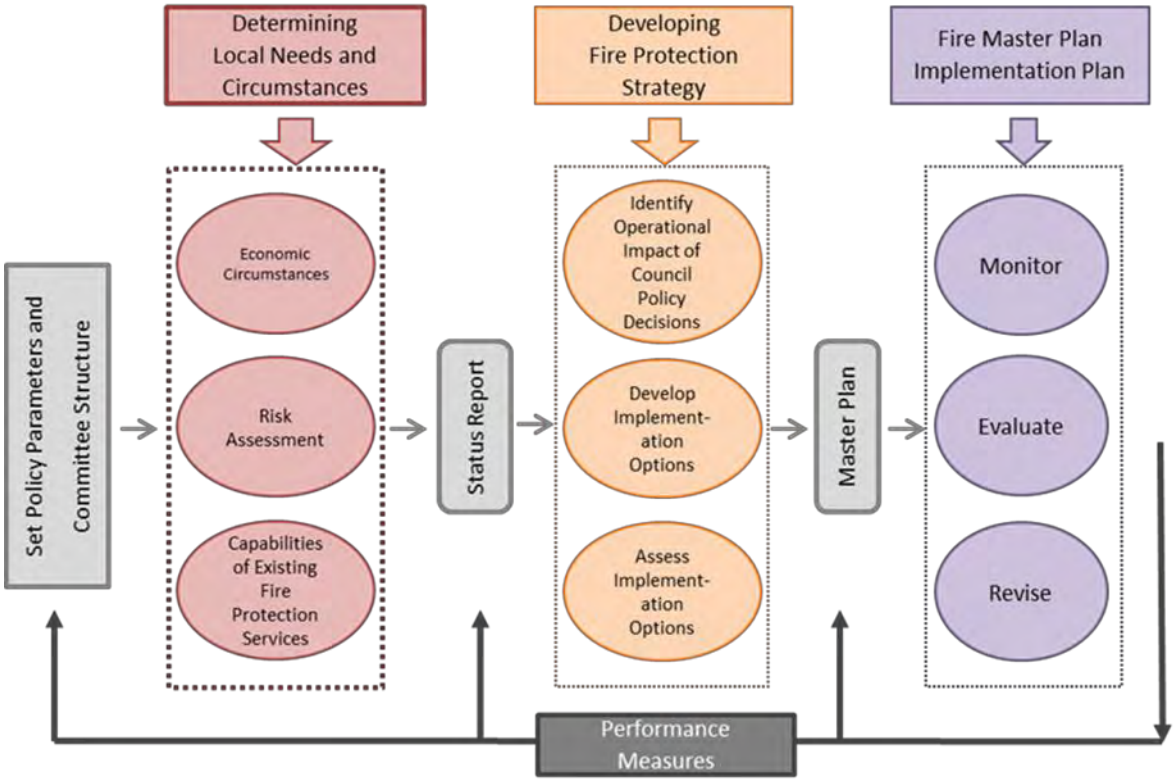
This F.M.P. is also informed by **P.F.S.G. 01-01-01 Fire Protection Review Process**, which identifies a number of factors to be considered in conducting the fire protection review process, including:

- 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

- Success will require a combination of specialized expertise in fire protection, and a thorough appreciation of your municipality's economic, social and political circumstances

Figure 1 reflects the framework for developing a Fire Master Plan for optimizing public fire safety.

Figure 1: Fire Master Planning Framework



4.1 Applicable Legislation

In addition to the Community Risk Assessment, the analysis and findings of this fire master planning process are informed by the applicable legislation including the **Fire Protection and Prevention Act, 1997** (F.P.P.A.) the **Occupational Health and Safety Act, R.S.O. 1990** (O.H.S.A.), guidelines as authored by the **Office of the Fire Marshal and Emergency Management** (O.F.M.E.M.), industry standards, as authored by the **National Fire Protection Association** (N.F.P.A.), and Dillon's knowledge of current industry best practices, as garnered from our experience in working with other municipalities across Canada.

4.1.1 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 Fire Protection and Prevention Act, 1997 (F.P.P.A.). In addition to promoting fire prevention and public safety, the F.P.P.A. is also the Act under which the **Ontario Fire Code** (O.F.C.) is regulated. While all legislation should be read and understood in its entirety, the following are applicable sections of the F.P.P.A. for reference purposes to this fire master planning process.

Table 1: F.P.P.A. 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); ("chef des pompiers") **"fire code"** means the fire code established under Part IV; ("code de prevention des incendies") **"fire department"** means a group of firefighters authorized to provide fire protection services by a municipality, group of municipalities or by an agreement made under section 3; ("service d' incendie") **"Fire Marshal"** means the Fire Marshal appointed under subsection 8 (1); ("commissaire des incendies")

Part 2	Definitions
	"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; ("services de protection contre les incendies") **"municipality"** means the local municipality as defined in the Municipal Act, 2001; ("municipalite") **"prescribed"** means prescribed by regulation ("prescript") **"regulation"** means **"volunteer firefighter"** means a firefighter who provides fire protection services either voluntarily or for a nominal consideration, honorarium, training or activity allowance; ("pompier volontaire")
Application of definition of firefighter	(3) The definition of firefighter in subsection (1) does not apply to Part IX. 1997, c. 4, s. 1 (2)
Automatic aid agreements	(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 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: F.P.P.A. 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.
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.

Part 2	Responsibility for Fire Protection Services
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.
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.

Table 3: F.P.P.A. 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. (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.
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 systE.M.S. for persons involved in the provision of fire protection services and to

Part 3	Fire Marshal
	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. (h) to perform such other duties as may be assigned to the Fire Marshal under this Act.

The F.P.P.A. includes a series of important Ontario Regulations (O. Reg.) that are very applicable to this fire master planning process including:

- **O. Reg. 213/07** – Ontario Fire Code (O.F.C.)
- **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** – Community Risk Assessments

4.1.1.1 Bill 57 – Restoring Trust, Transparency and Accountability Act, 2018

On December 6th, 2018, Bill 57 the **Restoring Trust, Transparency and Accountability Act, 2018** received royal ascent. Schedule 18 of this Bill amended the F.P.P.A. "to prohibit employers and employers' organizations from refusing to employ a person as a firefighter, refusing to assign a person to fire protection services or discharging a firefighter because the person has worked, is working or intends to work as a volunteer firefighter.

Firefighter associations are also prohibited from denying membership to, suspending, expelling, fining, attempting to collect a fine from, penalizing or otherwise disciplining a firefighter because the firefighter has worked, is working or intends to work as a volunteer firefighter, regardless of whether or not such work is within the jurisdiction, or adversely affects the interests of the association.

Amendments to Part IX of the Act replace three-member arbitration boards with single arbitrators for dispute resolution. The amendments also include new criteria to be taken into consideration in an arbitrator's decision and a requirement that an arbitrator provide

written reasons for a decision at the request of either party. Complementary amendments are also made"[4].

The Town of Caledon played an instrumental role in supporting the need for this legislation and acknowledging the vital role that volunteer firefighters provide in the Town of Caledon.

4.2 Occupational Health and Safety Act (O.H.S.A.)

The **Occupational Health and Safety Act, R.S.O. 1990** requires every employer to, "take every precaution reasonable in the circumstances for the protection of the worker"[5]. The O.H.S.A. provides for the appointment of committees, and identifies the **Ontario Fire Services Section 21 Advisory Committee** as the advisory committee to the Minister of Labour with the role and responsibility to issue guidance notes to address firefighter-specific safety issues within Ontario.

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 (O.G.s) .or alternatively Operating Procedures (O.P.s) that are consistent with the direction of the O.H.S.A. Section 21 Guidance Notes for the fire service.

4.3 Applicable Public Fire Safety Guidelines

The F.P.P.A. also defines the roles and responsibilities of the Fire Marshal, including the authority "To issue guidelines to municipalities respecting fire protection services and related matters". At this time, the O.F.M.E.M. is conducting a comprehensive review of all P.F.S.G.s. During this review process, the O.F.M.E.M. has informed the fire service that the current P.F.S.G.s may be referred to for reference purposes. Where applicable, this F.M.P. will identify relevant P.F.S.G.s for reference.

[4] https://www.ola.org/en/legislative-business/bills/parliament-42/session-1/bill-57
[5] Occupational Health and Safety Act, R.S.O. 1990, c. O.1 Part III s. 25(2)(h)

4.3.1 Three Lines of Defence

Under the leadership of the O.F.M.E.M., the Province of Ontario has developed what is known as the Comprehensive Fire Safety Effectiveness Model (C.F.S.E.M.) as detailed through P.F.S.G. 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 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 Three Lines of Defence model includes:

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

These are further defined as:

I. Public Education and Prevention:

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

II. Fire Safety Standards and Enforcement:

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

III. Emergency Response:

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

As outlined by the O.F.M.E.M., Public Education and Prevention means educating residents of the community on means for them to fulfill their responsibilities for their own fire safety as 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. Fire Safety Standards and Enforcement refers to ensuring that buildings have the required fire protection systems, safety features (including fire safety plans) and that these systems are maintained so that the severity of fires may be minimized. Emergency Response entails 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 may occur despite public education and fire prevention efforts.

The C.F.S.E.M. 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 C.F.S.E.M. 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 analysis and recommendations contained within this F.M.P. prioritize the application of the "**Three Lines of Defence"** model for two main reasons. First, the scope of this F.M.P. 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 Ontario Regulation 378/18 Community Risk Assessments.

4.4 Applicable Industry Standards & Best Practices

4.4.1 National Fire Protection Association (N.F.P.A.)

The **National Fire Protection Association** 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, N.F.P.A. is recognized as one of the world's leading advocates of fire prevention and an authoritative source on public fire safety.

N.F.P.A. 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 (A.N.S.I.).

Over the past decade the Ontario fire service has been transitioning to the use of N.F.P.A. standards to guide many of the services they provide.

An example of this would be the transition process from the previous Ontario Fire Services Standards to the N.F.P.A. Professional Qualifications (N.F.P.A. Pro-Qual) Standards announced by the O.F.M.E.M. in 2014. Where applicable, this F.M.P. will identify the specific N.F.P.A. standards that have been referenced. **Table 4** lists a sample of standards by division that may be described or referenced throughout this plan.

Table 4: Summary of Applicable N.F.P.A. Standards

Division	Applicable N.F.P.A. Standards
Fire Prevention	• N.F.P.A. 1730- Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations (2019 Edition) • N.F.P.A. 1031 – Standard for Professional Qualifications for Fire Inspector and Plans Examiner (2014 Edition) • N.F.P.A. 1035 – Standard for Professional Qualifications for Fire and Life Safety Educator, Public Information Officer, and Juvenile Firesetter Intervention Specialist (2015 Edition) • N.F.P.A. 1033 – Standard for Professional Qualifications for Fire Investigator (2014 Edition)
Training	• N.F.P.A. 1041 – Standard for Fire Service Instructor Professional Qualifications (2019 Edition) • N.F.P.A. 1403 - Standard on Live Fire Training Evolutions (2018 Edition)

Division	Applicable N.F.P.A. Standards
Fire Suppression	• N.F.P.A. 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) • N.F.P.A. 1001 - Standard for Firefighter Professional Qualifications (2019 Edition) • N.F.P.A. 1021 – Standard for Fire Officer Professional Qualifications (2020 Edition) • N.F.P.A. 1142 - Standard on Water Supplies for Suburban and Rural Fire Fighting (2017 Edition)
Communications	• N.F.P.A. 1221 - Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (2019 Edition) • N.F.P.A. 1061 - Professional Qualifications for Public Safety Telecommunications Personnel (2018 Edition)
Mechanical	• N.F.P.A. 1901 - Standard for Automotive Fire Apparatus (2016 Edition) • N.F.P.A. 1911 - Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles (2017 Edition)

4.4.2 National Institute of Standards and Technology

The **National Institute of Standards and Technology (N.I.S.T.)** was founded in 1901 as a non-regulatory agency within the United States (U.S.) Department of Commerce. N.I.S.T.'s mission is to promote U.S. 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, N.I.S.T. 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 N.F.P.A. standards referenced within this F.M.P.

4.4.3 Commission on Fire Accreditation International (C.F.A.I.)

The **Centre for Public Safety Excellence** (C.P.S.E.) serves as the governing body for the two organizations that offer accreditation, education and credentialing: the C.F.A.I. and the **Commission on Professional Credentialing** (C.P.C.).

The **Commission on Fire Accreditation International** 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 C.F.A.I. program is to define an accreditation system that is a credible, achievable, usable, and realistic model. The ultimate C.F.A.I. 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 C.F.A.I. strategy that seeks to achieve "**continuous improvement**" in the delivery of fire protection services.

4.4.4 Canadian Association of Fire Chiefs - Volunteer Firefighter Recruitment and Retention Strategy

There are numerous factors impacting volunteer firefighters across the Country, including the requirements for higher training standards, increasing emergency call volumes, and the resulting increasing demand on personal commitment to sustain a high degree of training competency and experience gained through responding to calls. Maintaining an appropriate balance between the demands of being a volunteer firefighter and those of family and other commitments is becoming more difficult. Historically volunteer firefighters represented a portion of the community that lived and worked in close proximity to the fire station and individuals were allowed to leave work and respond to emergency calls. Financial compensation, although warranted, was not high on the list of those seeking to become a volunteer firefighter. Performance expectations, including maintaining training standards and attendance at training sessions, and sustaining minimum response attendance to emergency calls continue to increase the demands municipalities place on being a volunteer firefighter.

Municipalities must begin to develop recruitment and retention strategies for volunteer firefighters that recognize this evolution. Retention strategies can include a range of material rewards such as uniforms, awards and support to attend conferences. Monetary rewards may include benefits such as insurance coverage and access to other benefit programs that full time employees receive. Considering the total compensation package for volunteer firefighters should also recognize the value of the training and experience received. This is particularly relevant to the younger generation seeking a future as a full-time firefighter.Recruitment and retention of volunteers (part-time firefighters) is not just a municipal or provincial challenge in Ontario. Volunteer firefighters represent approximately 80% of all firefighters in Canada. In May 2010, Volunteer Alberta released the "*Volunteer Firefighter Recruitment and Retention Strategy"* which was developed for the Alberta Fire Chiefs' Association.[6] Recently, the Canadian Association of Fire Chiefs signed an agreement with the Alberta Fire Chiefs Association to expand their volunteer firefighter recruitment strategy across Canada.

[6] The Volunteer Alberta "*Volunteer Firefighter Recruitment and Retention Strategy"* released May 2010 is currently available on the Alberta Fire Chiefs Association website at: http://www.afca.ab.ca/images/stories/PDFs/volunteer%20alberta%20r%20%20r%20tool%20kit.pdf.

4.4.5 Province of British Columbia – Structural Firefighters Competency and Training Playbook

The Office of the Fire Commissioner in British Columbia, in consultation with the Fire Chiefs Association of British Columbia, and the British Columbia Fire Training Officers Association has developed the ***Structure Firefighters Competency and Training Playbook*** *(*Playbook*)*. In our view the most recent addition amended in May of 2015 reflects a further example of best practices within the fire service industry.

The Playbook is applicable to all fire services personnel within the Province of British Columbia as defined by their *Fire Services Act*. The principles of the Playbook indicate that it is the direct responsibility of the *"authority having jurisdiction"* (A.H.J.) to declare its firefighting service level. The declared fire suppression service level must then be established as a formal policy (by-law, policy or contract) and be fully reflected in operating guidelines within the fire department.

The service levels from which an A.H.J. may choose per the Playbook are described in the sections that follow. The service levels include: Exterior Operations Service Levels, Interior Operations Service Levels, and Full Service Level.

4.4.5.1 Exterior Operations Service Level

As described in the Playbook (p. 17): "Exterior operations level fire service firefighters shall not enter any building, vehicle dumpster or other object if an immediately dangerous to health (I.D.H.L.) atmosphere is present. If an I.D.L.H. atmosphere is present, Exterior Operation Level firefighters shall only engage in external fire suppression activities. Operational Guidelines that restrict them to Exterior Operations must be written and enforced by the department, even though they may possess equipment that would otherwise permit them to respond at a higher level.

On occasions where the department responds to a simple incident and an I.D.L.H. atmosphere does not yet exist, it is reasonable to address the issue from inside the structure. However, if an I.D.L.H. atmosphere develops or the fire progresses beyond the object of origin, or the environment or structure become compromised in any way, all firefighters must immediately withdraw to the exterior and combat the situation from the outside.

Where the I.D.L.H. atmosphere no longer exists as a result of fire suppression operations or otherwise, subject always to an appropriate risk assessment by the Incident Commander, it may be appropriate for members of an Exterior Operations Service Level department to enter the structure."

The Playbook notes where there is a potential risk of an I.D.L.H. atmosphere developing, or risk from smoke or particulate matter when conducting external operations (including overhaul), S.C.B.A. must be worn in accordance with Work Safe B.C. requirements.

4.4.5.2 Interior Operations Service Level

As described in the Playbook (p. 17-18): "Interior operation fire departments may engage in internal fire suppression activities within simple structures or objects such as a vehicle, single family dwelling or other small structure. Interior Operations may also include larger or more complex structures that the A.H.J. has assessed and pre-planned for, such that it determines that structure to be safe for Internal Operations Level qualified firefighters. Firefighters must be trained specifically to the risks associated with these structures.

Interior Operations Level fire services will have Operational Guidelines that must be written and enforced by the department, that describe advanced training in fire operations activities that allow for a calculated fire attack within permitted structures and objects."

Within the Playbook," Interior Operations must be undertaken in accordance with the requirements of Work Safe B.C. (including, in particular, S. 31.23 of the Occupational Health and Safety Regulation). The Incident Commander must recognize the need, and staff appropriately, for a Rapid Intervention Team (R.I.T.) with trained firefighters following the WorkSafe B.C. requirements."

4.4.5.3 Full Service Level

As described in the Playbook (p. 18): "Full service operations fire departments are equipped and have completed the appropriate training identified in the playbook to provide a full spectrum of fire services. These services are based on the competencies included within the N.F.P.A. 1001 Firefighter 2 Standard and relevant N.F.P.A. Fire Officer Standards.

Full service fire departments will have operational guidelines that must be written and enforced by the department, that describe advanced training in fire operations activities. These fire departments are organized such that the suppression activities that occur are based on response protocols which include the appropriate staffing levels, and number and type of apparatus on scene."

4.5 Options and Recommendations

This F.M.P. is intended to provide Council and senior staff with a strategic planning tool to assist in the decision-making process for providing fire protection services over the next ten-year community planning horizon.

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 F.M.P., a classification system has been included to identify the recommendations as either "**council**" or "**operational**" that are defined as follows:

Council Recommendations: These include recommendations that require the consideration and approval of Council 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 his delegated authority. 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.

4.6 Strategic Priorities

The 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 guiding principles, or strategic priorities, 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 F.M.P., including assessing compliance with applicable legislation, related reports and plans, current operations of the C.F.E.S., and knowledge of current industry best practices have been utilized to identify the following strategic priorities for Council's consideration as part of this fire master plan process.

As indicated within this F.M.P., the new O. Reg. 378/18 identifies the need and importance of implementing risk mitigation and risk reduction strategies in support of the first two lines of defence of the C.F.S.E.M. Fire suppression (firefighting) services continue to be a necessary service; however, historical evidence and current industry best practices fully support the need to enhance community fire safety through the delivery of more proactive fire prevention and public education services. The proposed strategic priorities presented within this F.M.P. are intended to assist Council and all members of the C.F.E.S. in managing this evolution in delivering fire protection service and need for cultural change.

Council Recommendation #1: That the strategic priorities presented within the proposed Fire Master Plan be adopted in principle by Council to guide all decision making related to the delivery of fire protection services within the Town of Caledon including that:

I. **The Town of Caledon is committed to the annual review of its Community Risk Assessment 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 Caledon Fire and Emergency Services.**

II. **The Caledon Fire and Emergency Services will prioritize the optimization of the first two lines of defence, including public education and fire prevention, and the utilization of fire safety standards and fire code enforcement as the foundation of providing a comprehensive fire protection program within the Town of Caledon.**

III. **The Caledon Fire and Emergency Services will specifically prioritize the delivery of fire and life safety programs in Group C- Residential Occupancies that include an enhanced Home Smoke Alarm/Carbon Monoxide Alarm Program.**

IV. **The Town of Caledon will continue to prioritize strategies that support the sustainability of a 'composite fire department' and the delivery of fire protection services that provide the most effective and efficient level of services resulting in the best value for the community.**

4.7 Stakeholder Consultation

Internal and external stakeholder consultation is a core component of a comprehensive fire master planning process. The stakeholder consultation to develop this F.M.P. included the following elements:

- Council Workshop
- Interviews with senior Town and C.F.E.S. staff
- Consultation with members of the Executive Board of the Caledon Professional Firefighters Association
- Consultation with a representative group of volunteer firefighters
- Consultation with a representative group of community stakeholder groups

In our view, with the support of Council the stakeholder consultation process to develop this F.M.P. was consistent with current municipal best practices, and resulted in providing a wide range of opportunities for all stakeholders to inform this F.M.P.

4.8 Community Risk Assessment

This section summarizes key aspects of the companion C.R.A. and how the risk conclusions of the C.R.A. inform the comprehensive analysis of the existing, and future fire protection needs of the Town of Caledon in the development of this Fire Master Plan.

4.8.1 Methodology

The companion C.R.A. has been developed for the Town of Caledon to comply with **Ontario Regulation 378/18: Community Risk Assessments**, which requires all municipalities in Ontario to identify the 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 C.R.A., the O.F.M.E.M. has developed **Technical Guideline-02-2019 (T.G.-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 the C.R.A. for the Town of Caledon has been directly informed by T.G.-02-2019, as well as other current industry standards and best practices.

4.8.2 Risk Prioritization

The mandatory profile analysis resulted in a series of risk conclusions. 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 T.G.-02-2019. This resulted in each risk having a risk level (e.g., low, moderate, or high) assigned to assist in the prioritization of risks as part of this Fire Master Plan.

In specific circumstances, being those that involve additional jurisdictional or legislative considerations, a risk-related conclusion is referred to as a **'Special Consideration'**.

4.8.3 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 F.M.P. The risk treatment process is presented within **Figure 2.**

As detailed in the C.R.A., the risk treatment process includes the application of risk treatment options as identified by N.F.P.A. 1300 and T.G.-02-2019. The risk treatment options include:

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

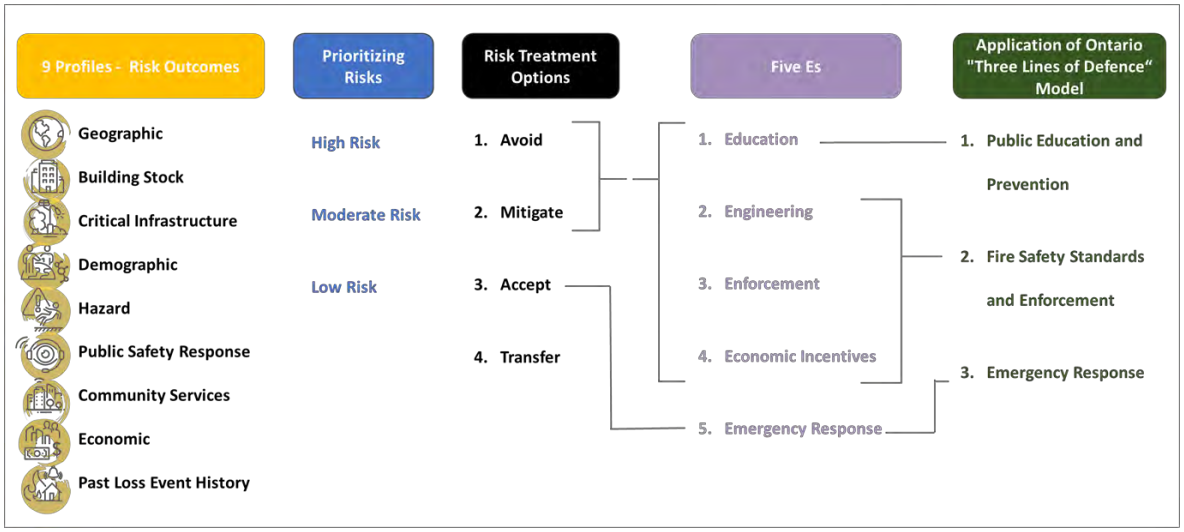
In addition to the four risk treatment options, each risk conclusion was reviewed through the lens of the “Five Es” as outlined in N.F.P.A. 1300, and the Institution of Fire Engineers’ Vision 20/20 National Strategy for Fire Loss Prevention. They include:

1. **Education:** influences audiences to refrain from risky or unhealthy behavior or take positive action to reduce risk
2. **Enforcement:** reduces risks through enforcing legislation through inspections and fines for noncompliance
3. **Engineering:** includes incorporating new products and technology to modify the environment to prevent or mitigate injuries and deaths
4. **Economic Incentives:** are typically offered to encourage better choices and changes in behaviour
5. **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 F.M.P. 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.

Figure 2: Risk Conclusions Application Process



4.8.4 C.R.A. Findings

A detailed overview of the analysis and the findings for each mandatory profile can be found in the C.F.E.S. C.R.A. found under separate cover. For reference purposes, 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 C.F.E.S. and ultimately for consideration within the analysis and recommendations of this F.M.P.

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	The large geographic emergency response area may have a direct impact on travel time by C.F.E.S.	**Moderate**	Accept			Yes	Yes	Yes
Geographic	The interconnectivity of the Town's road network has a direct impact on emergency response travel times.	**Moderate**	Accept					Yes
Geographic	Motor vehicle-related incidents on the existing road network represent 13.27% of the total emergency call volume the Caledon Fire and Emergency Services responded to during the six-year period from January 1st, 2014 to December 31st, 2019.	**High**	Accept					Yes
Geographic	The presence of waterways within the Town of Caledon creates a potential need for specialized technical ice and water rescue services.	**Moderate**	Mitigate Accept	Yes				Yes
Geographic	The geography of the Town of Caledon includes a large number of areas where there is wildland-urban interface as described by N.F.P.A. 1730 Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations (2019 Edition) that present the potential for a wildland fire.	**Moderate**	Mitigate Accept	Yes	Yes			Yes
Building Stock	Group C - Residential Occupancies represent 85.50% of the Town's existing property stock, and were associated with 72.19% of the historical structure fires during the period from January 1st, 2014 to December 31st, 2018.	**High**	Mitigate Accept	Yes	Yes	Yes		Yes
Building Stock	83.42% of the Town's Group C - Residential Occupancies are comprised of single-family houses as compared to 54.31% within the Province.	**High**	Mitigate Accept	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	33.47% of the Town's residential building stock was built prior to the adoption of the O.F.C. and as such represents a higher fire risk as a result of its age.	**High**	Mitigate Accept	Yes	Yes			Yes
Building Stock	The Town has 70 buildings with a total building area (footprint) that exceed 50,000 square feet (4,655 square metres). These buildings are predominantly located in the employment areas east of Bolton and in Mayfield West.	**High**	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Building Stock	The Town of Caledon currently has eight (8) registered vulnerable occupancies.	**High**	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Critical Infrastructure	The Brampton Flight Centre presents a number of unique fire related risks associated with aircraft, supporting infrastructure and the potential transportation of dangerous goods requiring specialized fire protection services.	**Special Consideration**	Mitigate Accept		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 the historical residential fire death rate. According to the 2016 Census, seniors represent 13.19% of the Town's total population.	**High**	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Demographic	The Town's commuter population presents a factor that may impact traffic congestion, and the potential occurrence of motor vehicle accidents.	**Moderate**	Accept					Yes
Demographic	The sustainability of the volunteer firefighter organizational model could be impacted if a large portion of the volunteer firefighters are required to travel outside of the assigned response areas to seek employment.	**High**	Avoid Accept				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	Over the five year period from January 1st, 2014 to December 31st, 2018, in 63.46% of fire related incidents, the occupancies involved did not have the working smoke alarms required in the Province of Ontario.	**High**	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	For the period from January 1st, 2014 to December 31st, 2018 there is a higher concentration of medical/resuscitator, false fire and fire/explosion calls in the areas of Bolton (Fire Station 302), Caledon East (Fire Station 303), Mayfield West (Fire Station 307), and Alton (Fire Station 301).	**High**	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 travel times.	Accept					Yes
Geographic	At-Grade level rail crossings could create a physical barrier to the connectivity of the Town's road network that can potentially result in extended emergency response travel times.	Accept					Yes
Building Stock	As the Town continues to grow and develop it's built form the potential fire related risks associated with building density and exposures will increase.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Building Stock	Caledon currently has one building that meets the O.B.C. definition of a high-rise building with a floor level 18 metres (59 feet) above grade, or 6 storeys. This building is located in Bolton.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Building Stock	The Town of Caledon has an inventory of occupancies that may have a higher fire risk associated with a high volume of fuel load storage, or manufacturing/distribution process.	Mitigate	Yes	Yes	Yes	Yes	Yes
Building Stock	In addition to registered vulnerable occupancies the Town has 30 schools and 11 day care facilities that represent higher fire life-safety risks.	Mitigate Accept	Yes	Yes	Yes		Yes
Building Stock	There are a number of identified heritage buildings within Caledon, many of which were constructed prior to the introduction of the Ontario Fire Code and Ontario Building Code.	Accept		Yes			Yes
Demographic	Of the Town's total population, 31.04% fall into the age range of 45 to 64, representing a cohort aging towards the seniors demographic of 65 years or older.	Mitigate Accept	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
Demographic	The 2016 Census data indicates that children aged 14 and under represent 18.58% of the Town's total population.	Mitigate Accept	Yes				Yes
Hazard	The Town's 2020 Hazard Identification and Risk Assessment identifies hazards that could each impact the ability of the Town to deliver fire protection services. These include: chemical release; fire / explosion; wildland fire; winter weather; high winds; crowd disaster; and infectious disease.	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
Economic	Industries within Caledon that are experiencing significant growth and major employers include the transportation, warehousing industries and the construction industry.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Over the five year period from January 1st, 2014 to December 31st, 2018, the Town averaged 30 structure fires per year.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Over the five year period from January 1st, 2014 to December 31st, 2018 Caledon experienced a total of 109 structure fires in Group C - Residential occupancies (72.19%). This accounts for 87.77% of the Town's total fire loss for this period, which is 25.91% higher than the proportion of fire loss for Group C-Residential occupancies in the Province (61.97%).	Mitigate	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Over the five year period from January 1st, 2014 to December 31st, 2018 structure fires occurring in Group F – Industrial occupancies accounted for 12.58% (19) of total structure fires within the Town.	Mitigate	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 1st, 2014 to December 31st, 2018 structure fires occurring in Group F – Industrial occupancies account for 9.14% ($1,853,500) of total structure fire loss within the Town, higher than the Province by 5.08%.	Mitigate	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	From January 1st, 2014 to December 31st, 2018, there were four reported injuries and one reported fire fatality within the Town of Caledon, all of which occurred in Group C – Residential occupancies.	Avoid Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	The percentage of fires determined to have been attributed to design/construction/maintenance deficiency by C.F.E.S. is 13.53%, higher than the Provincial statistic of 7.37% for the same period.	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 1st, 2014 to December 31st, 2018, the leading cause of unintentionally set fires was due to mechanical/electrical failure at 25.88% (107 fires), compared to 15.45% (5,432 fires) in the Province.	Mitigate Accept	Yes	Yes	Yes		Yes
Past Loss and Event History	Of the fires occurring in the Town over the five year period from January 1st, 2014 to December 31st, 2018, the second most common cause of unintentionally set fires was due to misuse of ignition source at 22.94% compared to 29.96% in the Province.	Mitigate Accept	Yes	Yes	Yes		Yes
Past Loss and Event History	Of the fires occurring in the Town over the five year period from January 1st, 2014 to December 31st, 2018, 20.59% were classified as having an “undetermined” fire cause.	Mitigate Accept	Yes				Yes
Past Loss and Event History	Of the fires occurring within the Town over the five year period from January 1st, 2014 to December 31st, 2018, 16.56% of the fires had a reported ignition source of “electrical distribution”, which is 7.67% higher than the Province (8.89%).	Mitigate Accept	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	Of the fires occurring within the Town over the five year period from January 1st, 2014 to December 31st, 2018, 11.26% of the fires had a reported ignition source of “open flame tools/smokers articles”, which is 2.46% lower than the Province (13.72%).	Mitigate Accept	Yes	Yes	Yes		Yes
Past Loss and Event History	Of the fires occurring within the Town over the five year period from January 1st, 2014 to December 31st, 2018, 10.60% of the fires had a reported ignition source of “Heating Equipment, chimney, etc.”, which is 2.78% higher than the Province (7.82%).	Mitigate Accept	Yes	Yes	Yes		Yes
Past Loss and Event History	Over the five year period from January 1st, 2014 to December 31st, 2018, of the fire loss incidents in Group C – Residential occupancies, 11.54% of incidents did not have a smoke alarm present compared to 17.31% in the Province.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	Over the five year period from January 1st, 2014 to December 31st, 2018, of the fire loss incidents in Group C – Residential occupancies, 36.54% of incidents had a smoke alarm present and operating compared to 44.57% in the Province.	Mitigate Accept	Yes	Yes	Yes	Yes	Yes
Past Loss and Event History	For the period from January 1st, 2014 to December 31st, 2018, ‘medical/resuscitator’ calls represented the highest percentage of the total emergency all volume for both Caledon and the Province (Caledon 34.71% compared to the Province 42.41%).	Accept					Yes
Past Loss and Event History	For the period from January 1st, 2014 to December 31st, 2018, Caledon had a lower percentage of ‘false fire calls’ than that of the Province (Caledon 10.02% compared to the Province 16.44%).	Mitigate Accept	Yes	Yes		Yes	Yes
Past Loss and Event History	For the period from January 1st, 2014 to December 31st, 2018, Caledon had a higher percentage of ‘fire/explosion’ calls (Caledon 5.44% compared to the Province 4.00%).	Mitigate Accept	Yes	Yes	Yes	Yes	Yes

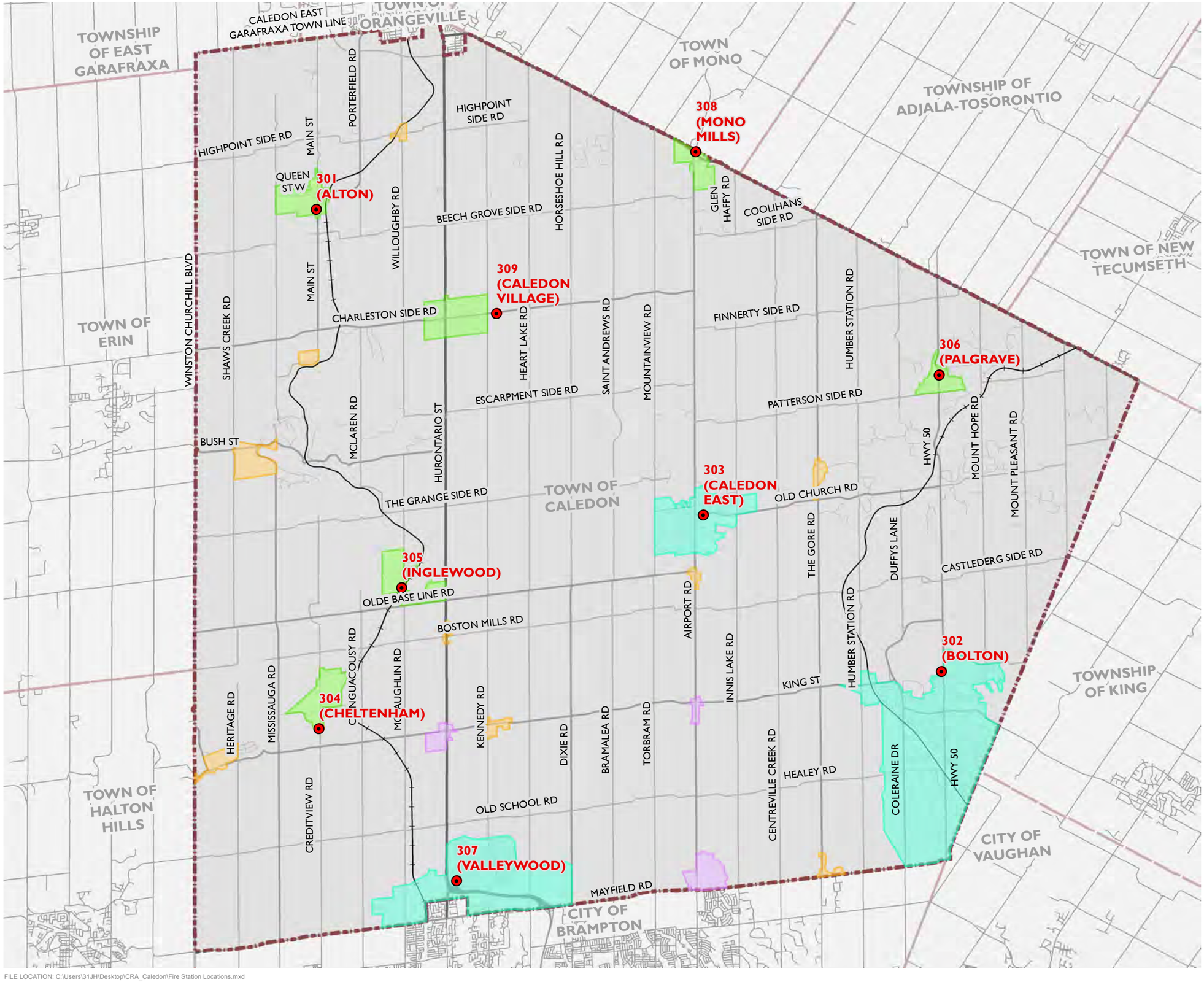
Profile	Key Finding	Risk Treatment Option: Avoid Mitigate Accept Transfer	Education for Consideration within the Proposed Public Education Program	Enforcement for Consideration within the Proposed Inspection and Enforcement Program	Engineering for Consideration within the Proposed Inspection and Enforcement 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 period from January 1st, 2014 to December 31st, 2019 the total volume of emergency calls responded to by the Caledon Fire and Emergency Services has increased by 17.16%.	Accept					Yes
Past Loss and Event History	Over the period from January 1st, 2018 to December 31st, 2019 the total annual emergency call volume decreased by 6.8% as a result of revisions to the Town's Tiered Response Agreement.	Accept					Yes
Past Loss and Event History	For the period from January 1st, 2014 to December 31st, 2018 there are higher concentrations of rescue incidents involving motor vehicle collisions and vehicle extrication along Hurontario Street (Highway 10), Airport Road, and Highway 50.	Accept					Yes

5.0 Caledon Fire & Emergency Services Overview

The current composition of the C.F.E.S. can be traced back to amalgamation that occurred in 1974 and resulted in the creation of the Town of Caledon as it exists today. The C.F.E.S. currently provides fire protection services from nine fire stations, strategically located throughout the municipality, with many of these fire stations located in their pre-amalgamation locations and historical settlement areas. The C.F.E.S. is organized into seven core services including fire administration, fire prevention and public education, training and education, emergency response, apparatus and equipment maintenance, community emergency management and communications/resources centre.

The C.F.E.S. is commonly referred to as a 'composite fire department' as it utilizes both full-time and volunteer firefighters to provide a wide range of fire protection services to the community. The current complement of staff includes a total of 321 members, including five full-time non-union positions, 31 full-time unionized positions, who are all members the Caledon Professional Firefighters Association (C.P.F.F.A.), Local 4686 of the International Association of Fire Fighters (I.A.F.F.), and 280 volunteer firefighters.

The C.F.E.S. provides a wide range of fire protection services that include public education programs, fire inspections and emergency response to medical, motor vehicle collisions and fire related incidents. **Figure 3** illustrates the current fire station locations within the Town.



TOWN OF CALEDON
FIRE MASTER PLAN

Town of Caledon Current Fire Station Locations
Figure 3

- Fire Station
- Municipal Boundary

Road Classification
- Provincial Highway
- Regional Road
- Local Road - Major
- Local Road - Minor

Settlement Area Type
- Rural Service Centre
- Village
- Hamlet
- Industrial/Commercial Centre

0 0.5 1 2 km

1:120,000

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 202879
STATUS: DRAFT
DATE: 2020-10-23

FILE LOCATION: C:\Users\31JH\Desktop\CRA_Caledon\Fire Station Locations.mxd

6.0 Administration Division

The Administration Division provides strategic direction and overall administration and management to the Caledon Fire and Emergency Services. This section outlines and reviews the primary administration practices, department organizational structure, vision and mission, management roles and responsibilities, applicable by-laws, current service agreements, departmental standard operating guidelines, and records management procedures.

The current organizational structure of this division includes the Fire Chief, two Deputy Fire Chiefs, and two Administrative Assistants. This division is responsible for overseeing the following core functions:

- Strategic planning
- Business planning
- Financial management
- Performance measurers
- Labour relations
- Data management
- Emergency management

6.1 C.F.E.S. Existing Organizational Structure

The existing distribution of staff resources within the C.F.E.S. is illustrated in **Table 7**. Within this structure the Fire Chief and two Deputy Fire Chiefs are three of five non-union management positions. The current organizational structure allocates a significant amount of workload to these three positions to oversee a unionized workforce of 36 full-time staff, and 280 volunteer firefighters. This includes both the strategic and daily responsibilities for delivering services to the public in the presence of a collective agreement and a significant volunteer workforce.

This structure assigns one of the Deputy Fire Chiefs with direct responsibility for all support services, and the second Deputy Fire Chief with direct responsibility for all department operations. The Fire Chief and Deputy Fire Chiefs also participate in a rotating on call schedule to ensure the availability of a senior non-union manager is available 24/7/365 to support and/or respond to emergency incidents as may be required.

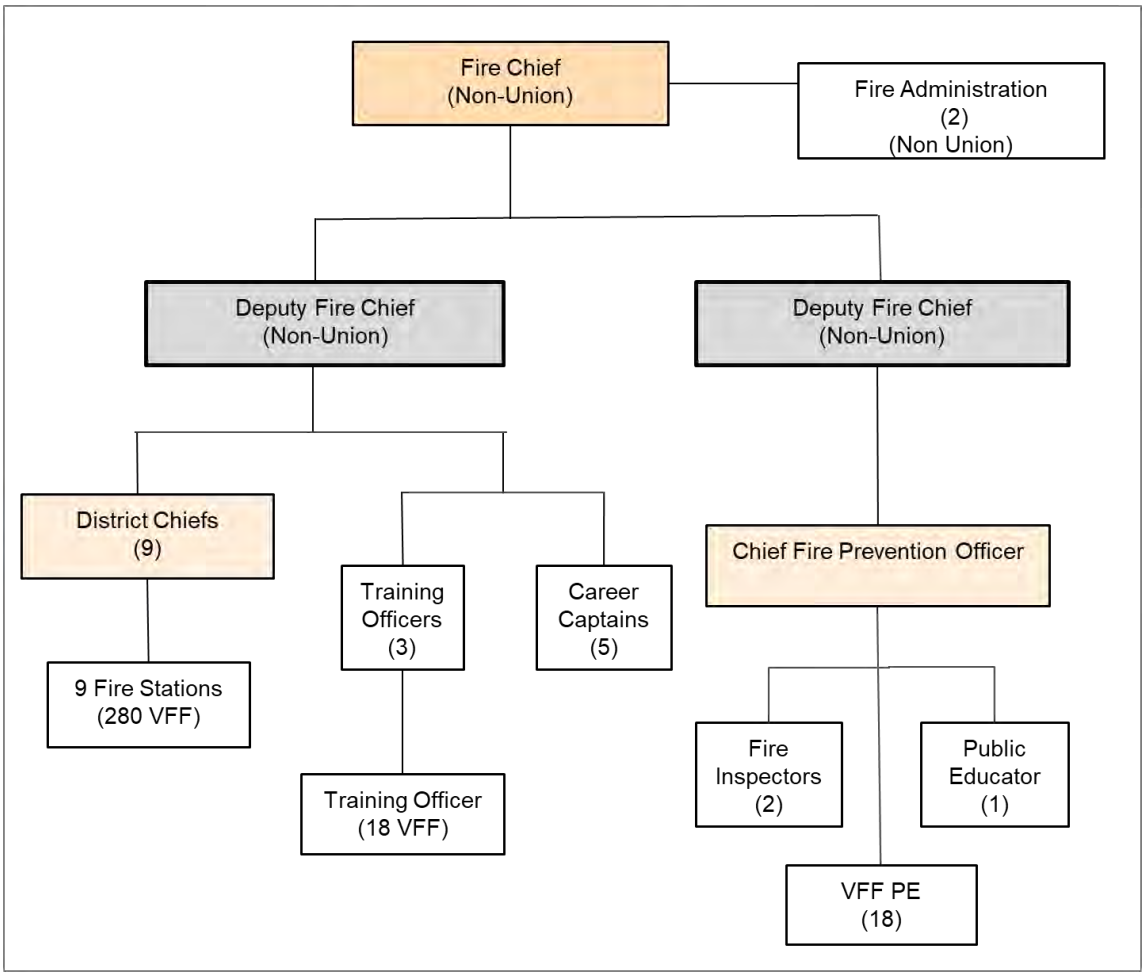
The existing distribution of staff resources includes 5 full-time staff assigned to Administration, 4 full-time staff assigned to the Fire Prevention/Public Education, 3 full-time staff assigned to Training, and 19 full-time and 280 volunteer firefighters assigned to Operations.

Table 7: C.F.E.S. Existing Distribution of Staff Resources

Role / Division	Full-Time Non-Union Staff	Full-Time Unionized Staff	Volunteer Firefighters
Administration			
Fire Chief	1		
Deputy Fire Chief – Support Services	1		
Deputy Fire Chief - Operations	1		
Administration Assistant	2		
Fire Prevention/Public Education			
Chief Fire Prevention Officer		1	
Fire Inspector		2	
Public Educator		1	
Training			
Training Officer		3	
Operations			
District Chief			9
Assistant District Chief			9
Captain		5	27
Training Officer			9
Assistant Training Officer			9
Firefighter		19	217
Other			
Communications	*Contracted to Joint Fire Communication Centre*		
Total:	**5**	**31**	**280**

Figure 4 illustrates the existing organizational structure of the C.F.E.S.

Figure 4: C.F.E.S. Existing Organizational Structure



6.2 C.F.E.S. Mission Statement, Vision and Core Values

P.F.S.G. 03-02-13 “Master Planning Process for Fire Protection” identifies the importance of a mission statement for a fire department. A mission statement should clearly 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 existing mission statement of the C.F.E.S. is:

"The mission of Caledon Fire & Emergency Services is to protect and strengthen our community through education, prevention, and rapid intervention at emergencies".

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 C.F.E.S. reflects these current industry best practices.

Often, fire departments will have a **vision statement,** in addition to a mission statement. A vision statement should identify a vision for the future that all individuals within the department can work towards. Vision statements can often remain the same while mission statements can evolve as the organization changes. The C.F.E.S. does not currently have a vision statement.

In addition to its mission statement the C.F.E.S. does have a goal that states:

"The goal of the Department of Caledon Fire & Emergency Services is to provide effective, efficient, safe, professional and prompt fire protection services to the public that we serve".

It is our understanding that under the direction of the Fire Chief, the department has initiated a process to review the current mission statement and goal of the department. This process will include a committee of department personnel representing department senior management, administration, the C.P.F.F.A., one volunteer firefighter from each command area, training, and prevention/public education. Conducting this review as part of the Fire Master Plan implementation process is consistent with current industry best practices.

6.3 C.F.E.S. Fire Management Team (F.M.T.)

The Fire Management Team of the C.F.E.S. includes the Fire Chief and two Deputy Fire Chiefs. Together the F.M.T. provides strategic and daily oversight of all operations of the department including all divisions, budget, purchasing, emergency planning, labour relations, as well as developing, recommending and implementing strategies to sustain and enhance the level of fire protection services to the community.

The three members of the department's F.M.T. participate in a 24/7/365 day a year 'scheduled on-call' rotation whereby one of the three senior officers is always available to respond in the event the Town's emergency management program is activated, or to respond to a large scale emergency incident to oversee all operations of the C.F.E.S.

6.3.1 Fire Chief

Reporting to the C.A.O, the responsibilities and authority of the Fire Chief are clearly defined within the Fire Department Establishing, Maintaining, and Operating By-law (No. 2014-075). The Fire Chief is appointed by Council through By-Law No. 2013-129. An overview of the roles and responsibilities of this position include:

- Responsible for the proper administration and efficient and effective operation of the C.F.E.S. including the delivery of Council approved programs and services
- General responsibility for operational matters including (but not limited to):
    - Care and protection of property belonging to the fire department
    - Arranging the provision of necessary and proper facilities, apparatus, and equipment
    - Determine and establish the qualification and criteria for employment or appointment and the duties of all officers, firefighters, and administrative staff
    - Conduct and discipline ranging from reprimand to termination
    - Preparing, coordination, implementing, and maintaining a Fire Master Plan
    - Keeping an accurate record of all fire, inspections, rescues and other emergencies responded to by the Fire Department
    - Preparing and presenting the annual business plan and budget estimates for the department to Council
- Take all proper measures for the prevention, control, and extinguishment of fires and the protection of life and property and the management of emergencies within the Town
- Responsible for enforcement of the Fire Department Establishing, Maintaining, and Operating By-law and the enforcement of all general orders, policies, standard operating guidelines, procedures, rules and regulations, and for the enforcement of other by-laws respecting the administration and operation of the department
- Responsible for the periodic review of the above documents, potentially through the use of advisory committees;
- Providing liaison with any association or union representing members of the department

- Liaise with the Ontario Office of the Fire Marshal and Emergency Management
- Participate in 24/7/365 day a year 'schedule on-call' practice

By-law 2014-075 stipulates that the Fire Chief (or a designate) is responsible for the core services provided through the Fire Prevention/Public Education and Training divisions. According job description for the position of Fire Chief, he/she is also responsible for ensuring department alignment with the corporate strategy and for overseeing the Community Emergency Management Program. While the Establishing, Maintaining, and Operating By-law describes the purpose and function of Emergency Management within the context of the department, it does not highlight responsibility for ensuring that the municipality achieves compliance with the fifteen essential requirements.

This F.M.P. includes a recommendation for the Fire Chief to review the existing Fire Department Establishing, Maintaining, and Operating By-law (No. 2014-075) and as part of the implementation process for this F.M.P. provide a proposed revised by-law to Council for consideration and approval.

6.3.2 Deputy Fire Chief – Support Services

The Deputy Fire Chief – Support Services reports directly to the Fire Chief and oversees the day-to-day management of the Fire Prevention/Public Education and Training functions of the department. This position also oversees the department's asset management program (fleet and facilities), fire related risk management program (C.R.A.) and the Town's emergency management program. The Deputy Fire Chief is appointed by Council through By-Law No. 2013-129. This position is directly responsible for overseeing the following functions within the C.F.E.S.:

- Fire inspection program
- Public education program
- Fire investigations
- Community Emergency Management Program
- Community Fire Risk Management (Community Risk Assessment)
- Participate in 24/7/365 day a year 'schedule on-call' practice

6.3.3 Deputy Fire Chief - Operations

The Deputy Fire Chief of Operations reports directly to the Fire Chief and oversees the day-to-day management of the Fire Suppression division (Operations), including both the full-time and volunteer firefighters. This position also oversees the department's communications (fire dispatch) agreement and the department's asset management program (buildings and equipment). A core function of this position is the development and review of department Standard Operating Guidelines (S.O.G.s) and department policies. The Deputy Fire Chief is appointed by Council through By-Law No. 2013-129. This position is directly responsible for overseeing the following functions within the C.F.E.S.:

- Operational deployment strategy
- Career (full-time) firefighter platoon management
- Volunteer firefighter management
- Training and professional development
- Asset management (fleet services)
- Department policy development
- Asset management (buildings and equipment)
- Occupational Health and Safety Committee (Management Co-Chair)
- Communications (Liaison with external communications (fire dispatch provider)
- Participate in 24/7/365 day a year 'schedule on-call' practice

6.3.4 Administrative Assistants

There are currently two full-time administrative assistants available to support the members of the F.M.T. and the administrative functions of the C.F.E.S. These positions are also non-union. Our review of the current roles and responsibilities for these positions indicates that they are predominantly aligned to support the functional areas of responsibility of the Deputy Fire Chiefs. Examples of the distribution of administrative functions of these positions include:

Position "A"	Position "B"
• Fire inspection clearance reports • Fire inspections/fire report searches • Freedom of information requests • Burn permits • Fire service financials (invoicing, accounts payable and receivable)	• O.F.M.E.M. Standard Incident Reports • Volunteer firefighters payroll • C.A.D. fire report entry • Emergency management support • Volunteer firefighter recruitment • Joint O.H.S.A. committee support

In addition to these core functions, these positons are also the first point of contact for public inquiries either in-person, or by telephone. The individuals filling the positions of Administrative Assistant are required to have a thorough understanding of the other's core roles and responsibilities in order to provide back up in the event of an absence.

Since completion of the 2018 F.M.P. report, there has been a reduction in the number of administrative assistant positions assigned to the C.F.E.S. from the previous three to the current two. Research into preparing this F.M.P. indicates that the workload now assigned to the two current administrative assistants has increased significantly as a result. Several administrative functions related to areas such as asset management, training records and data input were identified as gaps. In our experience, reducing administrative support, or not providing sufficient administrative support results in other staff being required to complete tasks that could be more efficiently and effectively completed by qualified administrative support staff.

Research into preparing this F.M.P. indicates an increasing amount of work required to sustain the current reporting requirements of the C.F.E.S. in many areas. In these same areas, recent legislative changes require more due diligence, records management, and reporting on behalf of the C.F.E.S. to maintain compliance. Examples of these areas include: firefighter training programs and record keeping, fire inspections and issuance of Fire Safety Inspection Orders, Fire Code charges and prosecution and public reporting in general- all of which are creating greater administrative workload for fire departments throughout the province.

There are recommendations within this F.M.P. that will place further strain on the current administrative support staff within the C.F.E.S., including: updating and

maintaining the Community Risk Assessment, implementing further performance benchmarks and enhancing reporting to Council. It is therefore recommended that consideration be given to hiring a third full-time administrative assistant. In our view, the process to develop the job description for this new position should include a focus on direct support for the members of the F.M.T. and specifically areas of enhanced performance benchmarking.

Council Recommendation #2: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to hiring a third full-time Administrative Assistant to support the C.F.E.S.

6.3.5 Summary of Administrative Staff Resources

Our observations of the current administrative staff resources including the Fire Chief, Deputy Fire Chiefs and Administrative Assistants, reflect a highly functioning team environment. Their combined efforts focus on providing high quality customer service to both internal and external customers. In addition to their regular duties, this team has created a work environment that supports prioritizing deliverables that may be required on a daily basis. Significant efforts are extended to these daily deliverables including payroll, records management, and responding to the operational needs of the department. Our observations indicate that this team is working at capacity in meeting the immediate needs of the department on a day to day basis. Limited time is available for strategic and long-term planning that creates a potential gap in identifying future challenges, such as community growth and opportunities that may impact the efficiency and effectiveness of the department.

Of importance to this F.M.P. process is identifying the administrative support required by the C.F.E.S. for the delivery of all services provided. Our analysis indicates that there is insufficient administrative support currently available to support the Fire Prevention and Training Divisions. The analyses within this F.M.P. includes identifying the existing and future administrative support services by division, and identifying where opportunities may exist to enhance the efficiency of this division through revising administrative processes or introducing enhanced use of technology. This analysis supports the need for Council to hire a third full-time administrative assistant to support the C.F.E.S.

6.4 Municipal By-laws

The Municipal Act and the Fire Prevention and Protection Act permit the council of a municipality to enact a number of by-laws to operate a municipality, including the fire department. In addition to meeting this legislative responsibility, by-laws provide the community with important information regarding the level of service that a municipality intends to provide. By-laws also provide municipal staff with the authorization to provide these services, as well as the responsibility to achieve the prescribed service level. By-laws common to a municipal fire service include the establishing and regulating by-law, appointment by-laws, and fees for service by-laws.

6.4.1 Fire Department Establishing, Maintaining, and Operating By-law No. 2014-07075

An Establishing and Regulating (E&R) By-law for a fire department should provide clear and accurate policy direction reflecting how a municipal council intends fire protection services to function and operate. **P.F.S.G. 01-03-12 "Sample Establishing and Regulating By-law"** prepared by the O.F.M.E.M. provides a description of the primary issues to be addressed, as well as a template for developing an E&R By-law.

The primary areas identified by the O.F.M.E.M. 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 current Establishing, Maintaining, and Operating By-law for the Town of Caledon was updated and passed on August 12, 2014. The by-law is very clearly structured and meets most of the best practice components highlighted by the O.F.M.E.M. The best practices include: providing the general responsibilities of department members, the method of appointment, establishing the authority to leave municipal limits and to effect department operation. In regards to the method of regulating the conduct of members

and the procedures for termination, there is limited direction beyond stating that these components are under the authority of the Fire Chief.

The by-law very thoroughly and effectively lays out the general functions and services to be provided. 'Schedule A' of the by-law outlines the Council-approved services provided under the core services of: emergency response, fire prevention and public education, fire administration, communications/ resource centre, training and education, maintenance, and support services. It also provides some indication of goals and objectives for the Fire Prevention and Training Divisions.

For the Fire Prevention Division there is reference to general services to be required at a minimum including "*inspections as per Fire Prevention Policy*".

Municipal best practices indicate that the Fire Prevention Policy should be approved by Council and included within the Establishing, Maintaining and Operating By-law as an appendix. This practice provides the opportunity to further expand on and communicate the services listed in Section 25(1) of the by-law. Subject to Council's consideration and approval of the recommendations contained within this F.M.P. there will be a need to update the current Establishing, Maintaining and Operating By-law.

Operational Recommendation #1: That subject to Council's consideration and approval of the proposed Fire Master Plan, the Fire Department Establishing, Maintaining, and Operating By-law No. 2014-075 be reviewed and updated as required.

6.4.2 Fees By-law No. 2017-79

Enacting fees for select services provided by C.F.E.S. is one way to enable cost recovery, the details of which are outlined in the Fees By-law No. 2019-078. This by-law was passed on December 17, 2019 with the fees for Fire and Emergency Services listed in "Schedule B". The fees are broken down into nine categories, namely: reports; inspections (in excess of fire code requirements); emergency responses; special events; open air burn permits; fire safety plan review and approval; review and approval of propane risk and safety management plans; fireworks by-law; and police attendance. Within these categories, the areas for cost recovery are fairly comprehensive. For example, within inspections there is a clear breakdown by occupancy type. Even more notably, emergency responses fees include a number of categories including false

alarms, gas leaks, hazardous material spill clean-up, hydro response, and motor vehicle occurrence/incident/collision.

In our view, the Town has implemented an effective process in the annual budget process for review of the applicable rates and fees for the C.F.E.S., including a municipal comparator analysis.

6.4.3 Additional By-laws

Several additional by-laws that support or are related to the operations of the fire department have been passed by Town of Caledon Council. One such by-law is the Emergency Management Plan By-law (No. 2014-076). This by-law enacts the Emergency Response Plan, outlines the role of the Emergency Management Program Committee, outlines the role of the Emergency Control Group, describes the procedure for the declaration of an emergency, and also details the role of the Community Emergency Management Coordinator (C.E.M.C.), who is identified as the fire chief.

Open Air Burning By-law No. 2016-092 was updated since the Town's last F.M.P., after a period of public consultation. The updated by-law permits contained backyard fires in residential areas of the Town, provided certain precautions and restrictions are met.

Schedule M to Traffic By-law 2015-058 sets out the requirements for fire routes within the Town, including both physical requirements and signage requirements.

The Town's Fireworks By-law (No. 2009-097) regulates and prohibits the sale and discharge of fireworks. It also provides for the issuance of permits by the Fire Chief of C.F.E.S.

As permitted under the **Development Charges Act, 1997**, By-law No. 2019-31 imposes and provides for the payment of development charges for municipal services within the Town of Caledon.

Two unit houses may also be referred to as granny flats, in-law suites, accessory apartments, basement apartments and other titles describing a second contained unit created within either a single-family or semi-detached dwelling. Although two unit homes are not a new concept, in recent years, many jurisdictions have seen an increase in the number of these dwelling units. As the population continues to grow, it is expected this trend will continue. The Town of Caledon is amongst a large number of Canadian cities that have introduced by-laws addressing concerns relating to parking, building, fire and electrical safety, noise, property standards and zoning requirements.

By-law No. 98-86, requires all two unit houses within the Town of Caledon to be registered with the Town, a process which includes a fire safety inspection if the registration falls under Section 9.8 of the O.F.C..

In our experience, the registration and licensing requirements within the aforementioned by-law is similar to those found in other jurisdictions. Unfortunately, even with the by-law, registration and inspection requirements in place, inspection staff may never be able to ensure all rental properties are maintained to a constant state of compliance with the Ontario Fire Code or that all properties being used as residential rentals, group homes and lodging houses are registered or licensed. Maintaining the registry and assessing complaints as per O. Reg.365/13, Mandatory Assessment of Complaints and Requests for Approval are evidence of the City's further commitment to fire and life safety within these occupancies.

Our review of the existing by-laws approved by the Town of Caledon with direct impact on the C.F.E.S. indicates that all required by-laws are in place. Ensuring that these documents are regularly reviewed and updated to reflect any changes in service levels or authority are important functions of the Administration Division.

Operational Recommendation #2: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. implement a regular process for updating all applicable by-laws.

6.5 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 C.F.E.S. is a party are outlined in the section following.

6.5.1 Mutual Aid Agreements – Fire Suppression

Mutual aid agreements are pre-determined plans that allow participating fire departments to request assistance from a neighbouring fire department. O.F.M.E.M. **P.F.S.G. 04-05-12 *Mutual Aid*** outlines the requirements for participation in a mutual aid agreement such as having all appropriate by-laws in place including by-laws that establish the fire departments, appoint fire chiefs, and authorize fire departments to leave their jurisdiction. Mutual aid agreements reflect a reciprocal provision of services; there are no fees involved in mutual aid. Per **P.F.S.G. 04-05-12 *Mutual Aid***, there are two main scenarios when mutual aid can be enacted:

- "**A fire department may ask for mutual aid assistance when it is at the scene or has information that immediate assistance is required.**

- **Fire departments may immediately request a simultaneous response from a participating fire department where distance and/or conditions dictate."**

6.5.2 Automatic Aid Agreements

In contrast to mutual aid agreements, automatic aid agreements are programs designed to provide and/or receive assistance from the closest available resource, regardless of municipal boundaries, on a day-to-day basis. **P.F.S.G. 04-04-12 Automatic Aid** describes the concept of these types of agreements.

The advantage of implementing an automatic aid program is that the person/persons experiencing the emergency receive fire services from the closest available provider (municipality). Automatic aid allows for the provision of seamless by supplying seamless integrated fire suppression services through the elimination of traditional municipal service boundaries. Automatic aid agreements provide benefits such as:

- An enhancement of the level of public safety
- A reduction of the critical element of time between the commencement of a fire and the application of an extinguishing agent to the fire by dispatching the closest available fire suppression resources
- The reduction of life, property and environmental losses
- The improvement of public and firefighter safety

Automatic Aid Agreements are typically created between two neighbouring communities to reduce initial response times by deploying firefighters from the closest fire station, regardless of municipal boundaries; to deploy additional firefighters to enhance the depth of response capabilities of the requesting fire department; or alternatively, to request a specific type of apparatus such as a tanker or an aerial apparatus to support the response of the requesting fire department.

6.5.3 Region of Peel Mutual Aid and Automatic Aid Agreement.

The C.F.E.S. has been an active participant in developing the **Region of Peel Mutual Aid and Automatic Aid Plan and Agreement**. The C.F.E.S. Fire Chief is currently identified as the Regional Fire Coordinator, appointed by the O.F.M.E.M. In this role, the Fire Chief has responsibility for updating and overseeing the utilization of the plan as it may be required across the Region. The current agreement is dated January 1st, 2017.

6.5.4 Mutual Assistance Agreement – Emergency Planning (County of Dufferin)

In addition to the **Region of Peel Mutual Aid and Automatic Aid Agreement,** the Town of Caledon also has a **Mutual Assistance Agreement** with the County of Dufferin, which borders the municipality to the north. The purpose of this agreement is to allow for the provision of personnel, equipment or materials in the case of an emergency, per the **Emergency Management & Civil Protection Act, 1990**. The agreement came into effect in 2015 and provides direction as to when and how to call for assistance and also covers insurance and payment for assistance in the event of an emergency.

The C.F.E.S. has developed a positive working relationship with the County of Dufferin C.E.M.C. and has been working towards enhancing joint emergency preparedness initiatives. These include a working group to coordinate joint training sessions.

6.5.5 Town of Mono – Fire Protection Agreement

While similar in spirit to mutual aid agreement, fire protection agreements have one fundamental difference – fire suppression services under a fire protection agreement are dispatched automatically, whereas within a mutual aid agreement, such services must be requested. Fire protection agreements are designed to provide/receive constant, seamless assistance from the closest available resource, without consideration of municipal boundaries.

Fire protection agreements provide an advantage to the general public in terms of enhancing the level of public safety. By supplying seamless service through the elimination of artificial service boundaries, in the case of an emergency, the person experiencing the emergency receives fire services from the closest available provider. There are additional benefits to fire protection agreements which include:

- The reduction of the critical element of time elapsed between the commencement of a fire and the application of an extinguishing agent to the fire by dispatching the closest available assistance
- The reduction of life, property and environmental losses
- The improvement of public and firefighter safety by providing more resources in a timely manner

The Town of Caledon currently has a Fire Protection Agreement in place for a portion of the Town of Mono. According to the G.I.S. digitized boundary base on the automatic aid letter, the fire protection area covered is 66 square kilometres of the Town of Mono as shown in **Figure 5**. The fire protection services provided to the Town of Mono are identified in a letter dated October 13, 2010 as follows:

- Firefighting
- Fire cause determination and investigation
- Hazardous material incidents
- Search and rescue operations
- Medical assistance
- Extrication services
- Any other emergency responses or emergency incidents to which the fire department would normally respond to in the Town of Caledon
- Administrative and training function and services in respect to the provision of the previously mentioned services

These services are provided based on rates outlined in the letter. However, these rates do not appear to have been reviewed or updated since they came into effect on January 1, 2011. In our view, this agreement should be reviewed and updated where necessary and be presented for consideration and approval by Council.

Operational Recommendation #3: That subject to Council's consideration and approval of the proposed Fire Master Plan, the current Fire Protection Agreement with the Town of Mono be reviewed and updated as may be required.

Figure 5: Fire Protection Agreement - Town of Mono

6.5.6 Tiered Response Agreement (Peel Region)

Within the Province of Ontario, emergency response to incidents involving medical aid by the local fire department is commonly included within a regional tiered response agreement (T.R.A). These agreements are valuable in defining the emergency medical levels of service that a fire department will provide in the context of the regionally based provision of ambulance services. Such agreements are in place as a means to ensure efficient response by appropriate agencies.

According to a July 6, 2016 report to Town of Caledon Council (Staff Report 2016-82), a January 2010 agreement was established between the Town of Caledon, Region of Peel (Region), City of Mississauga, and City of Brampton. The agreement is between the three municipal fire services and the Peel Regional Paramedic Services (P.R.P.S.) and outlines protocols for multi-agency response including notification, activation, and response criteria. The Tiered Response Steering Committee (T.R.S.C.) is comprised of senior staff from each of the four representative groups (fire chiefs and paramedic chief) as well as the medical director of Sunnybrook Centre for Pre-Hospital Medicine.

The T.R.S.C. reviewed and updated the agreement due to recent changes including new fire chief appointments and the implementation of an automated agency simultaneous notification system ("E.M.S.-T.I.F.").

Within the new agreement, the Mississauga Central Ambulance Communications Centre (C.A.C.C.) notifies the C.F.E.S. in the case of:

- Mass Casualty Incident
- Choking
- Unconsciousness
- Respiratory Arrest
- Severe Respiratory Distress
- Cardiac Arrest
- Motor Vehicle Collision, or
- Non-tierable Queen's Highway Responses (blockers)

The revised agreement states that the C.A.C.C. will tier the Fire Services automatically utilizing E.M.S.-T.I.F. within sixty (60) second of meeting the tiering criteria. Also stated in the agreement is that fire communications notifies the C.A.C.C. in the case of a:

- Structure fire
- Hazmat/Chemical, Biological, Radiological, Nuclear, or Explosives incident
- Evacuations
- Medical calls
- Rescue/extrication

Our review of the participation by C.F.E.S. in the current tiered-response agreement reflects a municipal best practice of utilization of fire department resources to support integrated community emergency response.

6.5.7 Communications Service Agreement (Dispatch Agreement)

The Town of Caledon currently receives fire dispatch services from the Joint Fire Communications Centre (J.F.C.C.) jointly operated by the City of Mississauga and City of Brampton. The J.F.C.C. jointly serves the three fire departments in the Region of Peel including Mississauga, Brampton, and Caledon.

Industry best practices for the provision of emergency call taking and fire dispatching reflects the use of the National Fire Protection Association (N.F.P.A.) "1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems as the guideline for provision of fire dispatch services. This standard includes performance targets that are based on the three primary components of the dispatch process: alarm answering, alarm processing, and alarm transferring.

The current N.F.P.A. 1221 performance guidelines are:

- 95% of alarms received on emergency lines shall be answered within 15 seconds
- 99% of alarms shall be answered within 40 seconds
- 90% of emergency alarm processing (the point from when an alarm is answered and then transmitted to the fire department) shall be completed within 64 seconds
- 95% of alarm processing shall be completed within 106 seconds

Our review of the current fire dispatch agreement indicates that it is not consistent with the current N.F.P.A. 1221 Standard. In our view, the Town of Caledon should be seeking to update the current fire dispatch agreement to include the performance benchmarks of the N.F.P.A. 1221 Standard.

Operational Recommendation #4: That subject to Council's consideration and approval of the proposed Fire Master Plan, the Fire Dispatch Agreement be updated to include the applicable N.F.P.A. 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems performance guidelines.

6.5.8 Collective Agreement – Caledon Professional Firefighters Association (I.A.F.F. Local 4686)

Collective Agreements are established between municipalities and the associations that represent full-time staff such as firefighters, training officers and fire prevention officers. In Caledon, the most recent Collective Agreement in place between the Town and the Caledon Professional Fire Fighters' Association (I.A.F.F. Local 4686) is in force and effect from January 1, 2015 to December 31, 2018.

The purpose of the agreement, as stated in Article 1.2 is “to establish mutually satisfactory relations between the Corporation and the Association and to maintain satisfactory working conditions, hours of work and wages with respect to firefighters covered by [the] Agreement” (p. 4). It is also in place to provide a protocol for prompt and efficient method of handling complaints or agreements.

6.6 Operating Guidelines, Procedures and Policies

Current industry best practices reflect the use of policy documents as a tool to communicate very detailed direction to staff related to how specific tasks are to be completed to safely and effectively deliver fire protection services. Alternatively, Operating Guidelines are used to communicate guidance to staff on how specific tasks should be completed to safely and effectively deliver fire protection services.

P.F.S.G. 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
- Permit flexibility in decision making

Research into preparing this F.M.P. indicates that the C.F.E.S. has developed an extensive number of O.G.’s that are currently organized into ten categories including:

1. Apparatus
2. Maintenance
3. Communications
4. Personal Response
5. Personal Protective Equipment

6. Incident Management
7. Incident Operations
8. Training
9. Fire Prevention and Public Education
10. Medical Responses

Within each category there is an index that tracks the status of each O.G. including revision dates. A staff member has been assigned creating a terms of reference for a committee that has been established to review all O.G.s. The 11 Fire Chief's Standing Orders are being combined with the C.F.E.S. O.G.'s as part review process. The Chief Standing Orders book will be eliminated and additional O.G.s will be added specific to career staff.

Standard operating guidelines are required to be finalized and approved by the Fire Chief. Procedures should then be in place within the fire department to ensure that these guidelines are distributed to and comprehended by all relevant staff and followed as directed. Applicable procedures to record this process of developing, approving and distributing must be in place to ensure due diligence on behalf of the fire department and the Town, as the employer. This also helps to ensure that the operating guidelines and standing orders are being used effectively as a departmental communication tool.

As a means to ensure that all guidelines and standing orders reflect the needs of a modern fire service, best practices and the O.F.M.E.M. indicate that creating and empowering a committee of fire service staff to research, develop, review and draft standard operating guidelines can be a successful model. Research indicates that the C.F.E.S. is in the process of developing a terms of reference for implementing a committee of staff to review and update all operating guidelines.

Subject to Council consideration and approval of this F.M.P., there will be a need to conduct a review of all existing guidelines and procedures, and where necessary, complete revisions or develop additional guidelines or procedures to reflect all levels of service approved by Council. Health and safety is an essential consideration for fire and emergency services.

In addition to the relevant sections of Ontario's *Occupational Health and Safety Act* (O.H.S.A.) the fire service is also required to comply with the O.H.S.A. Section 21 Guidance Notes. Formalizing a staff committee to conduct this review will reflect the departments continued commitment to updating policies and guidelines with emphasis on compliance with the O.H.S.A. Section 21 Guidance Notes.

Operational Recommendation #5: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. prioritize the implementation of an Operating Guideline Committee including a defined terms of reference, and with the direction to prioritize the review of the Operating Guidelines referenced within the proposed Fire Master Plan.

6.7 Fire Service Annual Report

The O.F.M.E.M.'s **"Optimizing Public Fire Safety"** model recognizes the importance of ongoing monitoring, evaluation, and revisions to the fire protection services approved by Council. Many fire services utilize annual reports to council as a tool to provide a high degree of accountability and transparency on behalf of the fire chief in reporting to the community and council on the level of fire protection services provided. This regular reporting process is also an ideal opportunity to report on key performance indicators, update the fire related by-laws and provide further value in identifying changes or trends within the community.

The C.F.E.S. does not currently prepare a formalized comprehensive Annual Report. Information and statistical analysis is provided electronically through e-mail to Council as part of the annual budget process and other reports to Council. This includes statistical analysis of response types, response times, public education programs, and fire prevention activities. The current fire prevention activities reporting include inspections by occupancy type, inspection types, plan reviews, and fire safety activities.

The recommendations presented within this F.M.P. include the implementation of further performance benchmarking and data collection to monitor the services and programs being provided by the C.F.E.S. This strategy aligns with the utilization of a Community Risk Assessment to assist Council in its decision-making process with regard to the delivery of fire protection services. In our view, there are opportunities to enhance the current reporting process, analyze trends, and develop a formal Annual Report to Council and the public.

The proposed Annual Report should include an assessment of the service delivery objectives (e.g., public education cycles, inspection cycles, suppression objectives, etc.) and the identification of successes or where gaps may exist or may be forming. As a core service, reporting on training activities should also be included in an annual report. Metrics could include compliance rate with the annual training program requirements, and recruit training, for example. The benefit of providing such a report to Council is that it would enhance awareness of the fire protection services being provided by the C.F.E.S.

The Annual Report would also be beneficial to sharing the vision and core services of the department with the community it serves. This report could be shared on social media sites, posted on the Town's website, and through the Town's public email list.

Operational Recommendation #6: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. develop an Annual Report for presentation to Council and the public.

6.8 Post-Traumatic Stress Disorder Prevention Plan

First responders including firefighters are at an increased risk to suffer from Post-Traumatic Stress Disorders (P.T.S.D.) due to the nature of their work. The **Supporting Ontario's First Responders Act** requires fire departments to establish a Post-Traumatic Stress Disorder Prevention Plan (P.T.S.D.) 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 P.T.S.D. for certain workers is work related. Details relating to the Plan are to be shared within the workplace in an effort to prevent P.T.S.D.

As an employer of workers covered by the **Supporting Ontario's First Responders Act**, the Town of Caledon is required to have a Post-Traumatic Stress Disorder Prevention Plan. Our research indicates that the Town of Caledon has a P.T.S.D. Prevention Plan in place to ensure their workers have access to care.

6.9 Administrative Processes, Technology and Records Management

Our research and consultation with department staff identified that a large majority of the department's current administrative processes utilize Microsoft Excel and Word software. Although the department has access to some programs such as the Ontario Municipal Records Management System (O.M.R.M.S.) and the Firehouse software program, there appears to be limited staff access and utilization of this technology.

In our view, there is a consistent theme throughout the department that there are opportunities to further enhance the utilization of technology solutions that would improve the efficiency and effectiveness of the current administrative processes. In divisions such as fire prevention/public education and training, the current administrative processes are impacting the workload on highly qualified technical staff such as the fire prevention inspectors and training officers.

In addition to impacting the administrative efficiency of staff, examples were provided where the result is a gap in the current records management capabilities of the department. These include limited ability to search historical reports and produce historical electronic reports, including training records.

As a result of the current COVID-19 pandemic, the C.F.E.S. has begun using more online tools for meetings and training. The use of this technology appears to have been accepted by staff and particularly the volunteer firefighters, as a way to enhance department communications and on-line training offerings.

In our experience, the Office of the Fire Marshal and Emergency Management, and the Ministry of Labour place significant importance on the records management capabilities of a fire department when conducting an audit, a formal review or request for information. Our research indicates that with the implementation of the new Computer Aided Dispatch (C.A.D.) system by the J.F.C.C., the C.F.E.S. will have access to a more comprehensive records management system for emergency response data.

In our view, there is sufficient evidence to recommend that the C.F.E.S. prioritize a review of its current technology capabilities, administrative processes and records management practices.

This should include the development of a technology infrastructure plan that identifies the applicable technology solutions that may be required and the administrative processes that could be improved including a comprehensive records management strategy. Once in place, the C.F.E.S. will need to ensure that a comprehensive operating guideline is developed to provide the required direction to all staff impacted by these strategies.

Through consultation with the Town staff, we learned the I.T. division does not currently have sufficient capacity to support the implementation of a technology infrastructure plan. It was suggested that the Town's Planning Division recently engaged the contract services of an I.T. specialist to work with the Town's corporate I.T. team to implement technological solutions intended to modernize and digitize work processes. There may be value in considering a similar contract position to work with the C.F.E.S. to ensure a smooth launch of new technology being introduced to the department.

Operational Recommendation #7: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to prioritizing the development of a technology infrastructure plan and review of current administrative processes.

6.10 Administration Division Summary of Recommendations

Our review of the C.F.E.S. current administrative team and its functions indicates the presence of a highly qualified team that are working at maximum capacity. The corporate reallocation of one of the three previous Administrative Assistants assigned to the C.F.E.S. has resulted in an increased work load for this team and the loss of some administrative efficiencies. The analysis within this F.M.P. recommends the hiring of a third Administrative Assistant as soon as possible.

The current workload within this division is in part being driven by new regulations within the Province that require a higher degree of due diligence on behalf of the department's senior management team to plan for and maintain legislative compliance. The introduction of further performance indicators as recommended by this F.M.P. will also result in additional workload for this division.

In our view, the department should prioritize the development of a technology infrastructure plan and review of all current administrative processes as a first step to managing the current workload.

It is recommended that subject to Council's consideration and approval of the proposed Fire Master Plan, the Caledon Fire and Emergency Services implement the following recommendations in support of achieving the strategic priorities presented within this F.M.P.

Council Recommendations:

1. **That the strategic priorities presented within the proposed Fire Master Plan be adopted in principle by Council to guide all decision making related to the delivery of fire protection services within the Town of Caledon including that:**
    - **I. The Town of Caledon is committed to the annual review of its Community Risk Assessment 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 Caledon Fire and Emergency Services.**
    - **II. The Caledon Fire and Emergency Services will prioritize the optimization of the first two lines of defence, including public education and fire prevention, and the utilization of fire safety standards and fire code enforcement as the foundation of providing a comprehensive fire protection program within the Town of Caledon.**
    - **III. The Caledon Fire and Emergency Services will specifically prioritize the delivery of fire and life safety programs in Group C- Residential Occupancies that include an enhanced Home Smoke Alarm/Carbon Monoxide Alarm Program.**
    - **IV. The Town of Caledon will continue to prioritize strategies that support the sustainability of a 'composite fire department' and the delivery of fire protection services that provide the most effective and efficient level of services resulting in the best value for the community.**

2. **That consideration be given to hiring a third full-time Administrative Assistant to support the C.F.E.S.**

Operational Recommendations:

1. **That the Fire Department Establishing, Maintaining, and Operating By-law No. 2014-075 be reviewed and updated as required.**
2. **That the C.F.E.S. implement a regular process for updating all applicable by-laws.**
3. **That the current Fire Protection Agreement with the Town of Mono be reviewed and updated as may be required.**
4. **That the Fire Dispatch Agreement be updated to include the applicable N.F.P.A. 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems performance guidelines.**
5. **That the C.F.E.S. prioritize the implementation of an Operating Guideline Committee including a defined terms of reference, and with the direction to prioritize the review of the Operating Guidelines referenced within the proposed Fire Master Plan.**
6. **That the C.F.E.S. develop an Annual Report for presentation to Council and the public.**
7. **That consideration be given to prioritizing the development of a technology infrastructure plan and review of current administrative processes.**

7.0 Fire Prevention & Public Education Division

In addition to the F.P.P.A., the Ontario Building Code (O.B.C.) and the Ontario Fire Code (O.F.C.) inform an effective and efficient municipal fire prevention and public education program. Collectively, these codes provide the regulations that guide the initial construction of a building, including the applicable fire and life safety systems and the regulatory requirements to maintain these systems for the life of the building. A municipal building department, such as the Town of Caledon's Building Division, is tasked with overseeing the building permit process, including approval of the design/construction process, and the initial occupancy of the building. In Caledon, the Building Division works closely with the C.F.E.S. in all matters related to the fire and life systems required to construct a building and the building occupancy process.

Within a fire master planning process such as this, it is important to differentiate the roles and responsibilities of the Town's Building Division and the C.F.E.S. The Building Division requires the resources and technical skills to ensure that the building is initially designed and built to comply with both the O.B.C. and the O.F.C. During this stage, the C.F.E.S. provides a consultative role to the Building Division in regards to the required fire and life safety systems. The C.F.E.S. is then required to ensure that all fire and life safety systems are maintained throughout the lifetime of the building. As a result, it is important that a fire master planning process assesses the availability of resources and technical skills within the fire department to oversee the maintenance of these critical fire and life safety systems throughout the life of a building. As the Town of Caledon is experiencing a phase of rapid community growth, it is important that the staff resources available to maintain an effective fire inspection program be considered as part of this fire master plan.

The minimum legislative requirements for the delivery of fire protection services are outlined within the F.P.P.A., which state that a municipality should "**Establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention**"[7] and "**Provide such other**

[7] Fire Protection and Prevention Act, 1997 Part II, Section 2. (1) (a)

fire protection services as it determines may be necessary in accordance with its needs and circumstances."[8]

To further assist municipalities in understanding the definition of what the minimal acceptable fire prevention and public education programs are, the O.F.M.E.M. developed **P.F.S.G. 04-40-03 and 04-40-12 Selection of Appropriate Fire Prevention Programs**. Although these P.F.S.G.s 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
- Inspections upon complaint, or when requested to assist with code compliance

In our view, one of the reasons that the O.F.M.E.M. is currently conducting a review of all P.F.S.G.s is to update them to reflect changes to applicable legislation impacting the delivery of fire prevention and public education programs. Examples of such changes include revised smoke alarm and carbon monoxide alarm requirements and the new **O. Reg. 378/18** requiring all municipalities to develop a C.R.A.

The analysis within this section has been informed by our knowledge of the current applicable legislation, including the new **Ontario Regulation 378/18: Community Risk Assessments,** the P.F.S.G.s developed by the O.F.M.E.M., and applicable N.F.P.A. standards.

Collectively, this information has been applied within this F.M.P. in defining the local **"needs and circumstances"**, as required by the F.P.P.A., for the delivery of fire prevention and public education programs within the Town of Caledon.

Integrating risk analysis into the fire master planning process, as outlined in **Ontario Regulation 378/18: Community Risk Assessments**, empowers a municipality with the opportunity to assess alternative community fire risk mitigation and reduction strategies.

[8] Fire Protection and Prevention Act, 1997 Part II, Section 2. (1) (b)

Examples of fire risk reduction strategies may include enhancing a fire inspection program within a specific building occupancy classification; developing a public education program for an identified at-risk demographic within the community, such as seniors; or introducing local requirements for residential sprinklers. These types of risk reduction and risk mitigation strategies recognize that there are **proactive alternatives to increasing fire suppression** capability within a community.

7.1 Fire Prevention & Public Education Industry Best Practices

The fire prevention and public education services provided by the Caledon Fire and Emergency Service should be guided by industry best practices and the most current legislative requirements. Primarily, these include the mandatory requirements of the F.P.P.A, N.F.P.A. 1730 Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations and the N.F.P.A. Fire and Life Safety Ecosystem.

7.1.1 N.F.P.A. 1730: Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations (2019 Edition)

N.F.P.A. 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
6. Public Education Programs

The focus of this standard is to ensure that a fire prevention division has a Community Risk Reduction Plan (C.R.R.P.) in place and that it is based on the local **"needs and circumstances"** established through a Community Risk Assessment (C.R.A.).

A C.R.R.P. is then used to establish resources and programs that are designed to mitigate and/or reduce identified fire risk. For example, the N.F.P.A. 1730 standard identifies a minimum fire inspection frequency cycle which could be refined based on the local context. The supporting appendices of N.F.P.A. 1730 provide exercises to identify staffing resource needs, taking into account required tasks and time demands.

The analysis and methodology included within this F.M.P. integrates the intent of developing a C.R.R.P. as referenced within N.F.P.A. 1730. Where applicable, this F.M.P. 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 C.R.A. to enhance the existing fire prevention and public education programs and services provided by the C.F.E.S. The focus of the N.F.P.A. 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 N.F.P.A. Fire and Life Safety Ecosystem

The **N.F.P.A. 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
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 in order to cultivate an environment and culture of fire safety.

This F.M.P. 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 C.F.E.S.

7.2 Existing Fire Prevention & Public Education Staff Resources

Within the current organizational structure of the C.F.E.S. the Deputy Chief – Support Services is directly responsible for the oversight of all fire prevention and public education activities. The staff resources assigned to this division include the Chief Fire Prevention Officer (C.F.P.O.), two Fire Inspectors (F.I.), and one Public Educator (P.E.). The C.F.P.O. is directly responsible for the daily activities within this division including the administration and leadership of all staff assigned to this division.

7.2.1 Chief Fire Prevention Officer

The Chief Fire Prevention Officer (C.F.P.O.) is directly responsible for overseeing the daily operations and administration of the staff assigned within this division. The current Department Establishing, Maintaining, and Operating By-law No. 2014-075 states that the C.F.P.O. is “an Officer appointed by the Fire Chief to provide for fire prevention programs and who is designated as an Assistant to the Fire Marshal”. The current C.F.E.S. job description for this position describes the roles and responsibilities as:

- Manage the Fire Prevention and Public Education Division. Responsible for Division activities including budgeting, employee attendance and performance management; and preparing monthly Division activity reports.
- Conduct comprehensive fire safety inspections of all classes of buildings and occupancies in order to assess fire safety, and to promote and foster a Fire Prevention culture. Report findings and make recommendations to improve building and occupancy fire safety based upon municipal by-laws and Provincial Statutes and Regulations. Maintain records of all inspected buildings and communication relevant, pertinent information to the Department.

- Attend meetings with Town Building Officials or other Town Departments and Agencies as required to establish fire and life safety requirements. Examine, review and approve documentation for new buildings in accordance with the Ontario Building and Fire Codes.
- Provide recommendations to the appropriate regulatory authority in regards to potential fire hazards. Report any risks that require special tactical or preplanning action to the Fire Chief and Deputy Fire Chief, Support Services.
- Administer procedures and be responsible for the investigation of fires to determine cause. Coordinate the investigation on behalf of the C.F.E.S. with such other agencies as may be involved and shall report progress and subsequent findings to the Fire Chief or the Deputy Fire Chief in the prescribed manner.
- In cooperation with the Fire Chief and the Deputy Fire Chief, be responsible for media releases or statements pertaining to investigations, policy matters for the Department.
- Perform as the Chief Fire Official in accordance with the Ontario Fire Code.
- Act as an Assistant to the Fire Marshal and enforce the provisions of the Fire Protection and Prevention Act. Monitor and ensure compliance to all Acts, By-laws, Codes and Legislation pertaining to Fire Safety. Testify in court as required.
- Provide and supervise fire public education program in the Municipality, as mandated in the Fire Protection Prevention Act including presentations to the public, community groups, senior groups, businesses, etc.
- Respond to emergencies as required.
- Perform additional duties and undertake special projects as assigned.
- Be responsible to work and ensure that all staff supervised; work in compliance with the Occupational Health and Safety Act and Regulations, the Town of Caledon Occupational Health, Safety and Workplace Violence Policy and Procedures, as well as established industry guidelines.

In addition to overseeing this division, the C.F.P.O. also conducts fire inspections, fire investigations, and facilitates the delivery of fire public education programming.

7.2.2 Fire Inspectors

The current organizational structure of the C.F.E.S. includes two full-time Fire Inspectors (F.I.). These positions are integral to the delivery of the department's fire prevention initiatives and the application of the first two lines of defence. The current job description for these positions references the title 'Fire Inspector' which should be revised to more accurately reflect the broader roles and responsibilities of the position. The current C.F.E.S. job description for this position describes the roles and responsibilities as:

- Act as an Assistant to the Fire Marshal and as a Building Official under the provisions of the Fire Protection and Prevention Act, Building Code Act and all other related legislation
- Lay charges and participate in the prosecution for non-compliance to bylaws and prevention legislation
- Conduct inspections according to established Department policies and procedures in all classes of buildings and occupancies. Document findings and issue orders to improve fire safety in buildings and premises, based upon Municipal By laws, Provincial Fire Code, Statutes and Regulations, Provincial Building Code Statutes and Regulations, etc.
- Review and approve building fire safety plan submissions for compliance with the Ontario Fire Code
- Examine plans as part of the building permit process, and conduct inspections of new construction, for compliance with the Building Code and Fire Safety Legislation (e.g. fire protection systems, etc.)
- Conduct fire cause investigations as directed
- Participate in fire safety education programs for internal and external clients/customers
- Prepare/maintain reports, records, statistics and correspondence related to fire safety and prevention, inspections etc.
- Perform additional duties and undertake special projects as assigned
- Be responsible to work in compliance with the Occupational Health and Safety Act and Regulations, the Town of Caledon Occupational Health, Safety and Workplace Violence Policy and Procedures, as well as established industry guidelines.

As outlined in the job description, the F.I. roles and responsibilities include fire inspections, enforcement, fire safety plans, plans examinations, fire investigations, and supporting the delivery of fire safety education programs.

7.2.3 Public Educator

Operating under the direction of the C.F.P.O., the public educator is referenced within the Fire Department Establishing, Maintaining, and Operating By-law. As stated in the by-law, a "public educator means the person assigned by the Fire Chief to develop, deliver and evaluate public education programs using community risk and needs assessment so that incidents of fire, injuries and loss of life and property are reduced." The current job description for the P.E. states that this position shall provide "fire prevention - public education to all citizens in the municipality, developing programs with local schools, senior citizens, community groups, and training to other members of the fire service."

The current roles and responsibilities of the P.E. include performing public education activities including attending meetings, workshops, providing training, developing, delivering, planning, and organizing public and life safety events for both full-time and volunteer/paid on call firefighters. The P.E. also works with other fire services in the Region to improve the delivery of fire life safety education. The current C.F.E.S. job description for this position describes the roles and responsibilities as:

- Enforce the Fire Prevention By-laws of the municipality, the Ontario Fire Code and the Ontario Building Code, including court appearances; in order to ensure compliance.
- Conduct comprehensive fire prevention surveys and risk assessment of the municipality and all classes of buildings and occupancies; report the findings and make recommendations to improve the well-being of families, building and occupancy fire safety based upon risk management, municipal by-laws and Provincial Statutes and Regulations where specific authority has been given.
- Examine, review and approve documentation and programs, for fire life safety in the municipality.
- Act as an Assistant to the Fire Marshal in enforcing the provisions of the Fire Marshals' Act under subsection 4 of Section 8.

- Liaise with the Ontario Fire Marshal's Office Public Education Division on buildings requiring Fire Marshal approval in provincially funded projects with respect to Provincial and Building legislation.
- Reports to the appropriate Government Ministry in writing, for their action, all instances of non-compliance with the Provincial Fire Safety Statutes and Regulations.
- Work with the Ontario Fire Marshal, Ontario Fire Marshal's Safety Council, Police Agencies, ambulance Service, Schools, Region of Peel, Public Health, municipalities and the Private Sector to establish safety related programs throughout the municipality.
- Check all building plans for compliance on fire safety matters and advise the Chief Fire Prevention Officer in writing of the findings.
- Visit all premises, as appropriate, that require a license from the municipality, for fire life safety and prepare a report for the Chief Fire Prevention Officer outlining the findings and recommendations to implement a safety program.
- Speak on fire safety and fire prevention topics to civilian clubs, school groups, group home personnel, institutional and industrial personnel, etc.
- Observe fire drill procedures in public and private educational facilities, homes, hospitals and institutions, and report any inadequacies to the Chief Fire Prevention Officer.
- Work with volunteer Fire Inspectors throughout the Municipality with respect to fire safety issues and related programs in their respective districts whenever possible.
- Distributes and maintains audio visual equipment and programs, delivers public presentations, lectures, demonstrations, school educational fire safety programs and industrial fire safety training programs.
- Prepares fire safety advertising, promotions or press releases.
- Performs fund raising activities in the private sector to assist in costs for all fire life safety programs.
- Works closely with private sector to raise funds to provide funding for fire safety programs in the community and build partnerships with other safety experts and private industry.

- Co-ordinates, Risk Watch, Learn not to Burn, Home-Safe-Home, Remembering When, Fire Life Safety and Older and Wiser programs throughout the municipality.
- Perform related duties as assigned, including photographing fire hazards, suspicious fires and responds to emergencies when requested to do so by the Fire Chief.
- Be responsible to work in compliance with the Occupational Health and Safety Act and Regulations, the Town of Caledon Health and Safety policy and procedures, as well as any established industry guidelines.
- Knowledgeable in the Fire Protection and Prevention Act (F.P.P.A.).
- Provide and supervise mandated fire public education in Municipality, as per Fire Protection and Prevention Act.
- Ability to provide a yearly public education budget and maintain the budget.
- Gathers, records and then reports all findings and issues directions to improve safety in the community.
- Provide monthly statistical information on community fire safety needs and requirements and presents these to the Fire Chief.
- Perform related duties as required.

We note two items requiring updating within the position description for Public Educator:

1. Reference to the Fire Marshal's Act and reference to liaising with the Ontario Fire Marshal's Public Education Division on buildings requiring Fire Marshal approval, is no longer required.
2. The Fire Marshal's Act was replaced by the F.P.P.A., and the requirement to obtain Fire Marshal's approval for provincially funded projects no longer exists.

7.2.4 On Duty Fire Suppression Staff

On duty the full-time firefighters provide a valuable resource to supporting the department's current fire prevention and public education programs. This includes facilitating the pre-planning of identified higher risk occupancies, conducting some fire inspections (subject to their individual qualifications), and participating in the delivery of public education programs such as the Home-Safe-Home program.

It is important to ensure that any firefighter conducting a 'fire inspection' is qualified to the N.F.P.A. 1031 – Standard for Professional Qualifications for Fire Inspector and Plans Examiner, Fire Inspector I.

7.2.5 Volunteer Firefighters

The volunteer firefighters are an integral component to the delivery of the Home-Safe-Home program, specifically within their immediate response zones. Many of the volunteer firefighters are also qualified Fire and Life Safety Educators and able to assist in delivering the department's public education program.

As indicated above, it is important to ensure that any firefighter delivering a public education or fire prevention program is qualified to the applicable qualifications.

7.3 Applicable Fire Prevention & Public Education Training and Qualifications

In 2013, the O.F.M.E.M. announced that the Ontario fire service would be adopting the **N.F.P.A. Pro-Qual Standards** to replace the previous Ontario Fire Services Standards (O.F.S.S.). The previous O.F.S.S. had been developed by the Ontario Fire Chiefs Association (O.A.F.C.) in partnership with the O.F.M.E.M. 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 O.F.M.E.M. to facilitate the process of implementing the N.F.P.A. Pro-Qual Standards. The O.F.M.E.M. 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".[9] The N.F.P.A. Pro-Qual Standards are now 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.

[9] O.F.M.E.M. 2013 Grandfathering Policy
http://www.mcscs.jus.gov.on.ca/english/FireMarshal/FireServiceResources/Communiques/OFM_Com_2014-04at.html

7.3.1 Applicable N.F.P.A. Pro-Qual Standards

The applicable N.F.P.A. 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 current industry best practices in Ontario.

Table 8: Applicable N.F.P.A. Pro-Qual Standards

N.F.P.A. Standard	Qualification	Description
N.F.P.A. 1031 – Standard for Professional Qualifications for Fire Inspector and Plans Examiner	Fire Inspector I	An individual at the first level of progression who has met the job performance requirements specified in this standard for Level I. The Fire Inspector I conducts basic fire inspections applies codes and standards.
N.F.P.A. 1031 – Standard for Professional Qualifications for Fire Inspector and Plans Examiner	Fire Inspector II	An individual at the second or intermediate level of progression who has met the job performance requirements specified in this standard for Level II. The Fire Inspector II conducts most types of inspections and interprets applicable codes and standards.
N.F.P.A. 1031 – Standard for Professional Qualifications for Fire Inspector and Plans Examiner	Fire Inspector III	An individual at the third and most advanced level of progression who has met the job performance requirements specified in this standard for Level III. The Fire Inspector III performs all types of fire inspections, plans review duties, and resolves complex code-related issues.
N.F.P.A. 1033 – Standard for Professional Qualifications for Fire Investigator	Fire Investigator	An individual who has demonstrated the skills and knowledge necessary to conduct, coordinate and complete fire investigations.

N.F.P.A. Standard	Qualification	Description
N.F.P.A. 1035 – Standard for Professional Qualifications for Fire and Life Safety Educator, Public Information Officer, and Juvenile Firesetter Intervention Specialist	Fire and Life Safety Educator I	The individual who has demonstrated the ability to coordinate and deliver existing educational programs and information.
N.F.P.A. 1035 – Standard for Professional Qualifications for Fire and Life Safety Educator, Public Information Officer, and Juvenile Firesetter Intervention Specialist	Fire and Life Safety Educator II	The individual who has demonstrated the ability to prepare educational programs and information to meet identified needs.
N.F.P.A. 1035 – Standard for Professional Qualifications for Fire and Life Safety Educator, Public Information Officer, and Juvenile Firesetter Intervention Specialist	Fire and Life Safety Educator III	The individual who has demonstrated the ability to create, administer, and evaluate educational programs and information.

Source N.F.P.A.

At a minimum, all staff resources conducting fire inspections should have the skills and competencies included within the N.F.P.A. 1031 – Fire Inspector Level I. It is recommended that staff performing fire inspections involving more complex issues and requiring interpretation of various legislation and O.F.C. and O.B.C. requirements be qualified to N.F.P.A. 1031- Fire Inspector Level II. In our experience, successful completion of courses in addition to N.F.P.A. 1031 Level I and II requirements including O.F.C. Parts 2 & 6, Part 4, Parts 3 & 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 N.F.P.A. 1033- Standard for Professional Qualifications for Fire Investigator.

At a minimum, all staff resources responsible for developing and delivering public education programs should have the skills and competencies included within the N.F.P.A. 1035 – Fire and Life Safety Educator I.

Only personnel designated as Chief Fire Officials (C.F.O.) have the authority to approve fire alternative solutions, compliance alternatives, compliance equivalency, fire safety plans, life safety studies and fire drill scenarios. Fire chiefs are designated as C.F.O.s by virtue of their position. It is industry best practice that any delegation of such authority be done in writing. Recent legislated changes require all Chief Fire Officials approving fire safety plans for buildings containing care occupancies, care and treatment occupancies or retirement homes, to successfully complete mandatory training as approved by the Fire Marshal. At this time, the only training that has been approved by the O.F.M.E.M. is offered through Public Services Health & Safety Association (P.S.H.S.A.).

7.4 Existing Fire Prevention & Public Education Staff Training and Qualifications

This F.M.P. includes a comparison of the current levels of training qualifications and certifications of all existing fire prevention and public education staff resources with the applicable N.F.P.A. Pro-Qual standards. **Table 9** summarizes the existing staff resource training and certifications.

Table 9: Existing Staff Resource Training and Certification

Position	N.F.P.A. 1031 Level I	N.F.P.A. 1031 Level II	N.F.P.A. 1031 Level III	N.F.P.A. 1035 Level I	N.F.P.A. 1035 Level II	N.F.P.A. 1035 Level III	N.F.P.A. 1033	Commercial Cooking	Courtroom Procedures	B.C.I.N. Legal Course	B.C.I.N. Fire Protection Course
Chief Fire Prevention Officer	X	X		X	X		X	X	X	X	X
Fire Prevention Officer	X	X		X	X		X	X	X	X	X
Fire Prevention Officer	X	X		X	X		X	X	X	X	X
Public Educator	X	X		X	X		X	X	X	X	X

This analysis highlights the current extensive level of training and qualifications of those staff who are directly responsible for the day to day delivery of the department's fire prevention and public education services and programs.

Based on our review of the applicable N.F.P.A. Pro-Qual Standards for fire prevention and public education, the current staff within this division have attained the required qualifications. At this time, training to attain qualification at the N.F.P.A. 1031 – Fire Inspector Level III and N.F.P.A. 1035 level III are not readily available in Ontario. When the training for these higher standards becomes available, it should be made accessible to staff within this division and specifically the C.F.P.O.

Operational Recommendation #8: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. investigate opportunities to further enhance the fire prevention and public education staff resource qualifications as referenced in the proposed Fire Master Plan.

7.5 Fire Prevention Policy

In our experience, a fire prevention policy is a valuable tool, reflective of current industry best practices and providing clear direction and clarification to department personnel. The policy communicates the council approved service expectations for the prevention and public education division. Policies, particularly in the area of fire prevention and public education activities and programs are necessary to define performance goals and objectives; inform trend analysis; and inform ongoing monitoring of these services to the public.

The components of a **fire prevention policy** are provided in **P.F.S.G. 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
- To maintain compliance with the minimum fire prevention and public education activities as required by the F.P.P.A., 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
- Fire department operational guidelines identifying how, when and where activities will be conducted

7.5.1 C.F.E.S. Fire Prevention Policy

As referenced previously within this F.M.P., the current Establishing, Maintaining, and Operating By-law 2014-075 references the department's Fire Prevention Policy. This by-law states that this policy is intended to establish the minimum fire inspection cycles that will be met for occupancy classifications in the community. It also states that "fire prevention shall be implemented in accordance with the Caledon Fire & Emergency Services Fire Prevention Policy."

The department's current Fire Prevention Policy is contained within O.G. #9-001and is not attached to the Establishing, Maintaining, and Operating By-law, and therefore not approved by Council, which is considered a municipal best practice.

Subject to Council's consideration of this F.M.P., there may be a need to review and update the current Fire Prevention Policy. Once this process is completed we recommend that the updated Fire Prevention Policy be presented to Council for consideration and approval, and then included within an updated Establishing, Maintaining, and Operating By-law as an appendix.

Operational Recommendation #9: That subject to Council's consideration and approval of the proposed Fire Master Plan, the current Fire Prevention Policy be reviewed and updated and then presented to Council for consideration and approval and then included within an updated Establishing, Maintaining, and Operating By-law as an appendix.

7.6 Existing Fire Inspection & Enforcement Program

Since 2013, there have been a number of 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.

7.6.1 Ontario Regulation 150/13 Enhancing Fire Safety in Occupancies Housing Vulnerable Ontarians

Ontario Regulation 150/13 - Enhancing Fire Safety in Occupancies Housing Vulnerable Ontarians was filed on May 9, 2013. This regulation introduced amendments to the O.F.C. that came into force on January 1, 2014. The O.F.M.E.M. 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.**

7.6.2 Ontario Regulation 364/13 – Mandatory Inspection – Fire Drill in Vulnerable Occupancy

Ontario Regulation 364/13 – Mandatory Inspection – Fire Drill In Vulnerable Occupancy 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 **O.F.M.E.M. Directive 2014-002: Vulnerable Occupancies – Fire Drill Scenarios, Fire Drill Observations, Fire Safety Inspections,** as a minimum level of inspection), and then update the O.F.M.E.M.'s Vulnerable Occupancy Registry, as appropriate.

7.6.3 Ontario Regulation 365/13- Mandatory Assessment of Complaints and Requests for Approval

Ontario Regulation 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 or not 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 O.F.M.E.M. it is our understanding that the intent of this regulation is not for the Chief Fire Official 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.

7.6.4 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 **P.F.S.G. 40D-03 Inspections upon Request or Complaint** and **O.F.M. T.G.-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 C.R.A., the Town of Caledon has eight registered Vulnerable Occupancies, each requiring the C.F.E.S. 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 fire safety plans for these facilities. Mandatory inspection and fire drills for the Town's eight registered Vulnerable Occupancies currently account for approximately 2% of the division's total workload.

7.6.5 Request or Complaint Fire Inspections

A fire inspection program is a core element of the first two **"lines of defence".** The current fire inspection program of the C.F.E.S. consists of fire inspections based upon receipt of a request or a complaint, legislated inspections of specific occupancy types (vulnerable occupancies) and those based on historical fire risk. The C.F.P.O. provides a leadership role in developing and coordinating the delivery of the department's fire inspection program. The C.F.P.O. is supported by other fire prevention division staff as well as fire suppression resources.

In compliance with **Ontario Regulation 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 C.F.E.S. 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.
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.

Depending on the nature and validity of the complaint, the workload associated with this requirement can be significant.

7.6.6 Routine Fire Inspections

In comparison to responding to a request or complaint, routine fire inspections are proactive inspections conducted by the department in response to identified fire risks. Historically, routine fire inspections have been guided by previous risk profiles and analysis of fire related risks. Within this F.M.P. 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, C.F.E.S. has maintained a list of occupancy types which it routinely inspects, including those where a mandatory annual inspection is required by **Ontario Regulation 150/13 – Enhancing Fire Safety in Occupancies Housing Vulnerable Ontarians**. Having a routine inspection cycle in addition to completing request or complaint fire inspections is consistent with the Towns legislative requirements and current industry best practices.

As indicated previously within this F.M.P., the current Fire Prevention Policy focuses on excerpts from the F.P.P.A. in providing direction on the authority to conduct fire inspections. There is limited information within the current Fire Prevention Policy to describe the department's goals and objectives for completing fire inspections. This includes both the types of fire inspections to be conducted and the frequency of fire inspections.

Analyses of the current fire inspection program for the period from January 1st, 2015 to December 31st, 2019 indicates that the department's primary focus is on responding to complaints, or as a result of a request received to conduct an inspection. Although this responds to the Town's minimum legislative responsibility for providing fire inspections it does not prioritize the **"three lines of defence"** strategy.

The current C.F.E.S. fire inspection program; as shown in **Table 10**, indicates that with the exception of Group B – Care or Detention occupancies fire inspections of all other O.B.C. occupancy types are conducted upon request or complaint.

Table 10: Current C.F.E.S. Fire Inspection Cycles

Group	Occupancy Type	Current Inspection Frequency
A	**Assembly**	Upon request or complaint
B	**Care/Detention**	Vulnerable Occupancies – annually All others – complaint or request
C	**Residential**	
	Low/rise multi-family	Upon request or complaint
	High/rise multi-family	Upon request or complaint
	Two unit residential	Upon request or complaint
	Seniors residential	Upon request or complaint
	Boarding, lodging, rooming	Upon request or complaint
	Group homes	Upon request or complaint
	Hotels/motels	Upon request or complaint
D	**Business & Personal Services**	
	High/rise office	Upon request or complaint
	Low/rise office	Upon request or complaint
E	**Mercantile**	
	Shopping centres	Upon request or complaint
	Shops/stores	Upon request or complaint
F	**Industrial**	
	F1-High Hazard	Upon request or complaint
	F2-Medium Hazard	Upon request or complaint
	F3-Low Hazard	Upon request or complaint

Source: C.F.E.S.

7.6.7 Historical Fire Inspections by O.B.C. Major Building Occupancy Type

Information provided by the C.F.E.S. for the period from January 1st, 2015 to December 31st, 2019 illustrates the total number of fire inspections and the total number of hours that were associated with these fire inspections. This analysis illustrates that during this period the highest number of fire inspections were associated with Group C- Residential Occupancies representing approximately 316 fire inspections per year. Group F- Industrial Occupancies represented the second highest average number of fire inspections per year of approximately 290 fire inspections.

Table 11 presents the total number of fire inspections, total number of hours and the average number of hours per fire inspection by the O.B.C. occupancy types for the period from January 1st, 2015 to December 31st, 2019. This analysis illustrates the five year historical distribution of fire inspections based on the O.B.C. major building occupancy types.

Table 11: Fire Inspections by O.B.C. Major Building Occupancy Type

Group	Major Building Occupancy Type Classification	Total Number of Fire Inspections (2015 – 2019)	Total Number of Hours (2015 – 2019)	Average Number of Fire Inspections per Year (2015 – 2019)
A	Assembly	1,060	2,129	212.00
B	Care or Detention	59	266	11.80
C	Residential	1,584	3,317	316.80
D	Business & Personal Services	325	716	65.00
E	Mercantile	551	1,195	110.20
F	Industrial	1,450	4,007	290.00
Unclassified	Unclassified	134	222	44.67
Total	-	**5,163**	**11,852**	-

Source C.F.E.S.

As indicated in **Table 11** above, the C.F.E.S. conducted a total of 5,163 fire inspections during the period from January 1st, 2015 to December 31st, 2019. These fire inspections accounted for 11,852 hours of fire prevention division staff time.

Table 12 illustrates that since 2015 there has been an increasing number of fire inspections completed, rising from 803 inspections in 2015 to 1,244 inspections in 2019. During this same period the C.F.E.S. has been able to decrease the number of hours required to complete these fire inspections from 27.31% in 2015 to 15.69% in 2019. This represents an 11.62% improvement in efficiency in conducting fire inspections that can be associated with improved processes, efficiencies on the part of the Fire Inspectors, and may be associated with an improvement in compliance on the part of building owners that is resulting in less time being required for an inspection.

Table 12: Fire Inspection Workload January 1st, 2015 to December 31st, 2019

Year	Total Number of Fire Inspections of Buildings	Percent of Total - Fire Inspections of Buildings	Total Number of Hours for Fire Inspections of Buildings	Percent of Total Hours - Fire Inspections of Buildings
2015	803	15.55%	3,237	27.31%
2016	668	12.94%	2,708	22.85%
2017	1,199	23.22%	1,988	16.77%
2018	1,249	24.19%	2,059	17.37%
2019	1,244	24.09%	1,860	15.69%
Total	**5,163**	**100.00%**	**11,852**	**100.00%**

Source C.F.E.S.

7.6.8 Historical Fire Inspection Activities

In addition to conducting fire inspections, staff within this division are assigned to complete other activities (tasks) associated with the fire inspection process. The 2018 F.M.P. recommended that the C.F.E.S. implement a process to enhance the tracking of these other activities.

The 2018 F.M.P. recommended that the C.F.E.S. initiate a process to enhance the workload tracking of activities such as plan review and fire safety plans.

The information presented within **Table 13** provides an overview of the wide range of activities performed by the staff assigned to delivering the department's fire prevention programs and services including the C.F.P.O. and two Fire Inspectors. This information includes the time period from January 1st, 2015 to December 31st, 2019.

This information highlights the significant number of hours that were associated with the fire inspections evolving from a complaint (2,422 hours), a request (1,026 hours) and re-inspections (1,906 hours) during this five year time frame. This information also provides valuable insight into the other activities this staff are assigned to including related building code plans review (1,001 hours), building code inspections (1,973), prosecutions as a result of a fire inspection (443 hours) and attending court (83 hours).

In summary, this analysis indicates that the total number of hours associated with fire inspection activities during the five year period from January 1st, 2015 to December 31st, 2019 was 11,582 hours.

Table 13: Fire Inspection Activities January 1st, 2015 to December 31st, 2019

Fire Inspection Activities	Number of Activities	Total Hours
Attend Court	26	83
Building Code Inspection	809	1973
Building Plans	678	1001
Complaint	749	2422
Correspondence	452	336
Dry Hydrant Testing	3	7
Emergency Response Form	227	400
Fire Drills	95	139.5
Fire Investigations	142	590
Fire Routes	35	51
Fire Safety Plan	99	148
Liquor License	12	28
Occupant Load Calculation	7	9
Orders	139	256
Pre Plan Tour	18	43

Fire Inspection Activities	Number of Activities	Total Hours
Property Info	250	219
Prosecution	227	443.5
Re-inspection	576	1906
Request	363	1026
Resale	4	10
Routine	395	1223
Site Inspection Burn Permit	224	339
Site Plans	23	35
Site Servicing	1	1
Special Assignment	35	185
Total	**5,589**	**12,874**

Source C.F.E.S.

7.6.8.1 Plan Review

Assessing the fire and life safety requirements for new construction is an important element of the plan review process. Municipalities across Ontario have applied a wide range of strategies for completing the tasks associated with this review process. This involves having these tasks led by and completed by staff from the building department, assigning these responsibilities to staff within the fire department, or alternatively contracting out these services.

7.6.8.2 New Construction Plan Review

The Town of Caledon has adopted a model which reflects a partnership between the C.F.E.S. and the Building Services Section. Within this partnership, staff within the Fire Prevention Division are responsible for completing: all plans review of sprinkler, fire alarm, and kitchen suppression systems; and, site plan and subdivision approval for items affecting fire and life safety systems such as access and water supply. To become qualified to complete these tasks, the Fire Inspectors have attained the Building Code Identification Number (B.C.I.N.) certifications.

One of the most significant benefits of this partnership model occurs at the completion of a new construction project. The participation of the fire department during the design and construction phase of a project allows fire service personnel to develop a thorough knowledge of the intended use of the building and the required fire and life safety systems. Once complete, the fire department has an added responsibility for ensuring the fire and life safety systems of a building are maintained. Recognizing the occupancy of a building can change over time, understanding how the building was initially constructed and what the original intended use of the building was can play a key role when conducting subsequent fire inspections.

7.6.8.3 Fire Safety Plans

Fire Safety Plans are required for select occupancy types identified within the **Ontario Fire Code per Section 2.8.1.1** of the code. 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 fire safety plans depending on their occupancy load or other building-related features such as storeys below grade. The O.F.C. also details the content requirements of a fire safety plan (O.F.C. Section 2.8.2.1). The requirement includes emergency procedures in the case of a fire such as use of the fire alarm, notifying the fire department, and instruction and evacuation of occupants. Fire safety plans must also designate supervisory staff, and detail holding of fire drills, control of fire hazards, and maintenance of building facilities.

These plans, while requiring approval by qualified personnel within a fire department, are utilized primarily by the occupants. Fire Safety Plans provide an avenue for training in the case of a fire incident; for example, care providers at a long-term care facility would know their role in an evacuation procedure. While the C.F.E.S. approves Fire Safety Plans, this service is not identified within the current Establishing, Maintaining, and Operation By-law (No. 2014-075). There are also currently no operational guidelines in place outlining when Fire Safety Plans are required, how they should be used, and the qualifications required to be able to develop and approve Fire Safety Plan.

O.F.M.E.M. Communique 2013-06 announced **Ontario Regulation 150/13** requiring that by January 1, 2017, Chief Fire Officials are responsible for approving fire safety plans must have completed a training program or course that is acceptable to the Fire Marshal.

Operational Recommendation #10: That subject to Council's consideration and approval of the proposed Fire Master Plan, C.F.E.S. develop an operational guideline on the development, approval, review, required qualifications to develop/approve, and the use of Fire Safety Plans.

7.6.8.4 Fire Investigations

P.F.S.G. 04-52-12 Fire Investigation Practices suggests it is the responsibility of municipal fire departments to conduct a preliminary investigation of the cause, origin, and circumstances of a fire. Such investigations fall under the responsibility of the Fire Prevention Division. The actual effort spent on each investigation can vary depending on the severity of the incident. Industry experience indicates that the impact of this workload can be reduced by optimizing the first two lines of defence in line with local needs and circumstances.

C.F.E.S. O.G. #9-013 Fire Investigation outlines the requirements for fire investigations within the Town of Caledon. It reflects best practice that an operating guideline is in place that outlines policies and procedures including notification procedures and reporting requirements. However, the current operating guideline does not identify the required qualifications of those who will be conducting the fire investigations. **In our view, the current operating guideline should be updated to identify the required qualifications of the staff assigned to conducting the fire investigation.**

7.6.8.5 Pre-Planning

In comparison to a Fire Safety Plan, the process of pre-planning within the fire service is intended to provide a proactive awareness about key building features, possible hazards, and other pertinent characteristics about an existing occupancy. Pre-planning is typically conducted by on duty fire suppression staff with information provided from a variety of sources including existing information from the Town, information gathered from the building owner, and site visits. The value of a building pre-plan is to provide site specific education and information to fire suppression crews in advance of responding to an emergency incident.

The C.F.E.S. currently conducts pre-planning for industrial occupancies and recognizes the value of a Town-wide pre-planning program for high-risk or high-hazard occupancies. The existing resources within the fire suppression and fire prevention divisions limit the ability to expand this program beyond its existing industrials pre-plans. Our research indicates that there is currently no operating guideline or defined procedures for completing or prioritizing pre-planning within the Town.

7.6.9 Other Historical Fire Prevention Activities

In addition to tracking the activities associated with fire inspections, the C.F.E.S. is also tracking other activities related to the functions of the fire prevention staff. These include attending training courses and lecturers, divisional and department meetings and supporting the department's Public Educator by assisting at larger scale public education events and facilitating the T.A.P.P.-C. Program.

Table 14 indicates that from January 1st, 2015 to December 31st, 2019 the C.F.P.O. and two Fire Inspectors participated in 1,295 other activities representing approximately 3,674.5 hours.

Table 14: Other Fire Prevention Activities January 1st, 2015 to December 31st, 2019

Fire Prevention Activities	Number of Activities	Total Hours
Lecture	135	472
Meetings	240	523
Municipal Numbering	3	19.5
Public Education Event	50	185
T.A.P.P.- C.	6	14.5
Other Duties	565	596.5
Training	302	1878.5
Total	**1,295**	**3,674.5**

Source C.F.E.S.

7.6.10 Historical Fire Prevention Activities Summary

As indicated in previous sections, the C.F.E.S. initiated a comprehensive workload tracking process for all Fire Prevention Division activities as recommended by the 2018 F.M.P. **Table 15** illustrates that for the period from January 1st, 2015 to December 31st, 2019 the staff assigned to fire prevention activities including the C.F.P.O. and two Fire Inspectors completed a total of 6,684 activities representing approximately 16,549 hours.

This analysis confirms that approximately 78% of this divisions work load (hours) are assigned to completing fire inspection related activities.

Table 15: Summary of Fire Prevention Activities January 1st, 2015 to December 31st, 2019

Category	Activities	% Total (Activities)	Hours	% Total (Hours)
Fire Inspections	5,589	81.19%	12,874	77.80%
Other	1,295	18.81%	3,675	22.20%
Total	**6,884**	**100.00%**	**16,549**	**100.00%**

Source C.F.E.S.

7.7 Current Public Education Programs and Activities

The current public education programs provided by the C.F.E.S. includes four primary areas of focus, namely: institutional, community groups, public relations and community programs. Under the direction of the Chef Fire Prevention Officer, the Public Educator provides a leadership role in developing and coordinating the delivery of the department's public education programs and activities. The P.E. is supported by other fire prevention division staff as well as fire suppression resources including both full-time and volunteer firefighters.

The C.F.E.S. also supports the delivery of the formalized public education programs that are presented in **Table 16**.

Table 16: Formalized Public Education Programs

Formalized Public Education Programs	
T.A.P.P.- C. Program	Cooking With Teens
Project Zero Program	Older & Wiser Program
Learn Not To Burn	Risk Watch Program

Source C.F.E.S

7.7.1 Historical Public Education Activities

Table 17 presents an overview of the historical public education activities delivered by the C.F.E.S. over the period from January 1st, 2015 to December 31st, 2019. These activities include visits to schools and outreach targeted to Pre-Kindergarten/Daycare, Grades 1 to 6, Grades 6 to 8, High School students, and teachers. The audience also includes adult and children community groups and community events as part of public relations.

This analysis indicates that during this five year period, just over 60%, or an average of 319 public education activities targeted community programs. Whereas 4.91%, or an average of 26 activities targeted community groups that would include adults aged 18 to 60 and seniors.

Table 17: Historical Public Education Programs

Total Number of Activities per Category by Year

Category	2015	2016	2017	2018	2019	Total	% Total	Average
Institutional	65	40	83	63	23	274	10.36	55
Community Groups	35	29	26	17	23	130	4.91	26
Public Relations	130	105	194	114	101	644	24.35	129
Community Programs	125	1,166	76	112	118	321	60.38	319
Total	**355**	**1,340**	**379**	**306**	**265**	**1,369**	**100.00**	**-**

Table 18 illustrates a detailed breakdown of the public education activities that were conducted during this same period. This analysis identifies that community events, training/workshops and meeting account for the largest proportion of total hours within the current public education program.

Table 18: Identified Audience Types and Activities for Public Education Activities

Category	Activity	Number of Activities	Total Hours
Institutional	Pre K/ Daycare	53	29
Institutional	Elementary Grades 1 - 6	80	97
Institutional	Middle School Grades 6 - 8	10	16
Institutional	High School	18	34
Institutional	Teachers	113	36
	Subtotal (Institutional)	**274**	**212**
Community Groups	Seniors (60+)	23	92
Community Groups	Children	41	96
Community Groups	Fire Safety Presentation	22	28
Community Groups	Adults (18- 60)	44	19
	Subtotal (Community Groups)	**130**	**235**

Category	Activity	Number of Activities	Total Hours
Public Relations	Business Requests	26	51
Public Relations	Community Events	334	727
Public Relations	Meetings	218	260
Public Relations	Municipal Numbering (2015-2016)	44	-
Public Relations	Media Releases (2017-2019)	22	13
	Subtotal (Public Relations)	**644**	**1,051**
Community Programs	T.A.P.P.- C. Sessions	10	18
Community Programs	Project Zero Visits	5	-
Community Programs	Alarms installed	72	29
Community Programs	Pub Ed material requests	16	18
Community Programs	Training/Workshops	143	427
Community Programs	Other	75	136
	Subtotal (Community Programs)	**321**	**628**
	Total	**1,369**	**2,126**

Source C.F.E.S.

As recommended by the 2018 F.M.P., the C.F.E.S. has implemented enhanced record keeping of both the fire prevention and public education activities. However, there is still a need for further identification of clear goals and objectives for each public education program. Establishing these goals and objectives would provide more effective performance monitoring of the existing activities.

7.7.2 Home-Safe-Home Program

The provision of a smoke alarm program and carbon monoxide (C.O.) alarm program including home escape planning is a best practice and important component of the department's public education programming. The presence of working smoke alarms and home fire escape planning that is practiced regularly by occupants are critical components of the first line of defence in an overall community fire protection plan. The relevance of these components must be further emphasized, especially in areas of the community where extended emergency response travel times may be present, and where vulnerable demographics such as children and seniors reside.

P.F.S.G. 04-40 B-03 – Smoke Alarm Program describes the benefits of implementing an effective smoke alarm program as the following:

- Ensure that owners have properly installed working smoke alarms in all residential occupancies
- Reduce fire deaths, injuries and property losses
- Educate residents about the importance of installing and maintaining smoke alarms
- Assist residents to develop and practice an effective home fire escape plan
- Assists the municipality in meeting its legislative requirements under the F.P.P.A.
- Create positive public relations between the community and the fire department.

As of April 15th, 2015 property owners of buildings that contain no more than six suites must install and maintain carbon monoxide detectors as required by the Ontario Fire Code. Generally this means that a carbon monoxide detector must be installed adjacent to each sleeping area of the residence. As the F.P.P.A. has also been revised to address “unsafe levels of carbon monoxide” the fire service has been tasked with monitoring compliance with this legislation. Recent experience has shown that fire departments are amending their smoke alarm programs to include carbon monoxide detectors as well.

The department’s current smoke alarm program describes the schedule of the program to be from the spring to the fall and to occur on evenings and weekends. Additional information provided by the department indicates that staff from all nine fire stations participate in, and are responsible for handing out educational materials as part of this program. The department has also developed ‘public education kits’ that contain two smoke alarms, four nine volt batteries and two stuffed animals to be used in conjunction with the departments smoke alarm program as well as emergency incidents.

Table 19 illustrates the transition of the current smoke alarm program over the period from January 1st, 2015 to December 31st, 2019. Following completion of the 2018 F.M.P., the department updated its smoke alarm program including increasing the number of homes visited annually. In comparison to the three previous years, the department increased the number of homes visited in 2018 and 2019 by approximately 200%.

Table 19: Home-Safe-Home Program Statistics

Description	2015	2016	2017	2018	2019
# of homes where educational info was provided	1,169	1,100	830	3600	3200
#of smoke alarms provided	18	8	9	13	18

Source: C.F.E.S.

Research into preparing the Community Risk Assessment included a review of the information collected by both the C.F.E.S. and the experience of other fire departments across the province when responding to fire related incidents. **Table 20** highlights whether a smoke alarm was present and operating on the floor or in the suite of fire origin for the period from January 1st, 2104 to December 31st, 2018.

Table 20: Smoke Alarm Presence and Operation on the Floor of Fire Origin - Town of Caledon and Province of Ontario

	Town of Caledon							Ontario	
Smoke Alarm Status on Floor of Origin	2014	2015	2016	2017	2018	Total	%	Total	%
No Smoke Alarm Present	3	2	1	2	4	12	11.54%	4,289	17.31%
Smoke Alarm Present And Operated	8	10	10	5	5	38	36.54%	11,044	44.57%
Smoke Alarm Present, Did Not Operate	4	3	7	2	2	18	17.31%	3,467	13.99%
Smoke Alarm Present, Operation Undetermined	2	1	3	2	2	10	9.62%	1,907	7.70%
Smoke Alarm Presence Undetermined	4	6	7	4	5	26	25.00%	4,014	16.20%
Unknown, not reported	0	0	0	0	0	0	N/A	59	0.24%

Source: O.F.M.E.M. Standard Incident Reporting

This analysis indicates that over this five year period smoke alarms were found to be present and operational in only 36.54% of the fire related incidents in the Town of Caledon. This indicates that in 63.46% of the fire related incidents the occupancies involved did not have the working smoke alarms required in the Province of Ontario. In our view, this highlights the importance of the proposed strategic priorities included within this F.M.P., specifically:

"The Caledon Fire and Emergency Services will specifically prioritize the delivery of fire and life safety programs in Group C- Residential Occupancies that include an enhanced Home Smoke Alarm/Carbon Monoxide Alarm Program".

To support this strategic priority we are recommending that the C.F.E.S. conduct a further review of the success that was achieved in 2018 and 2019. This should include consultation with fire prevention and fire suppression staff to consider what further enhancement could be made to this program. For example, during our stakeholder consultation process with the volunteer firefighters there were numerous examples of interest on the behalf of the volunteer firefighters to broaden the scope of the department's smoke alarm initiatives including the volunteer firefighters from all stations raising the number of homes visited within their response areas.

Consideration should also be given to developing a home fire safety audit that could include discussing with occupants the presence and merits of a home escape planning, fire safety behaviour with seniors living alone, and cooking/heating fire safety. An enhanced smoke alarm program should also consider targeting the seniors demographic within the community including developing partnerships that may support this type of initiative. Funding in the amount of $50,000 was approved in the department's 2020 budget to enhance the departments current Home Safe Home Program, however as a result of the current COVID -19 pandemic this initiative has not been started.

Operational Recommendation #11: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. review the current Home-Safe-Home Program to identify strategies to further enhance the effectiveness of this program in reducing the historical non-compliance of working smoke alarms in the Town of Caledon.

7.8 Existing Staff Resource Workload Summary

This section provides a summary of the current workload assigned to the four fire prevention/public education division staff. **Table 21** illustrates that over the five year period from January 1st, 2015 to December 31st, 2019 staff within the division completed a total of 12,874 hours of work related directly the fire inspection process and a further 3,675 total hours were assigned to other fire prevention related activities. Staff within this division also completed a total of 2,126 hours associated with the current public education program. This represents a total of 18,675 directly related to delivering the department's current fire prevention/public education program. This reflects a total of 4,669 hours per staff member annually.

Table 21: Prevention/Education Workload Summary

Activity	Number of Activities	Average Hours per Year
Fire Inspection Activities	5,589	12,874
Other Fire Prevention Activities	1,295	3,675
Public Education Activities	1,369	2,126
Total	**8,253**	**18.675**
Divided by four staff		**4,669**

Table 22 presents a summary of the total number of hours per year available for the four staff currently assigned to this division. This analysis considered the total number of hours available each year, the average number of hours of vacation per year, average sick time, and assigned training. In summary, this division has an existing work load capacity of approximately 6,076 hours per year.

Table 22: Prevention/Education Hours Available

Hours Available per Week (35 Hours)	Hours Available per Year (35 x 52 weeks)	Average Vacation (4 Weeks' vacation + 13 Statutory Holidays)	Average Sick Time (1 Week per Year)	Training/ Education (1 Week per Year)	Total Hours Available Per Year (4 Positions)
140	7,280	924	140	140	6,076

Through our research and consultation with division and senior staff, it was found that although staff within the division are now tracking all of the activities directly related to the delivery of fire prevention and public education programs, they are not yet tracking all indirect activities. This includes activities such as responding to correspondence, telephone calls and e-mails, work to support other divisions, such as emergency planning, and the time associated with travel to and from a fire inspection or public education event. For example, our research indicates that the C.F.E.S. receives approximately 7,000 general inquiries from the public on an annual basis. These inquiries can range from questions regarding burn permits and smoke alarm requirements to where to purchase a carbon monoxide detector. In our experience with other fire departments, these types of inquiries can range in associated workload from 5 minutes to 30 minutes if a follow up call is required.

In summary, our analysis indicates that each of the four current fire prevention/public education staff spend approximately 1,407 hours per year, or 30% of their available time completing indirect activities such as correspondence and travel. In our view, some of these indirect activities such as the initial call taking and response to public inquiries could be provided by additional administrative support with the required skills and competencies. However, it is our view that there is limited existing staff resource capacity to expand the existing fire prevention/public education programs and services through the utilization of existing division staff.

7.9 Identified Fire Risks

The findings of the Community Risk Assessment included several identified fire risks within the Town of Caledon. The N.F.P.A. 1300 standard and the O.F.M.E.M. T.G.-02-2019 support the process of identifying risk treatment options that include avoidance, mitigation, acceptance and transfer. **Table 23** summarizes the risk reduction strategies that are also presented in the N.F.P.A. 1300 standard.

Table 23: N.F.P.A. 1300 Risk Mitigation

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

Table 24 presents the identified fire risks within the Town of Caledon that were included within the C.R.A. and are considered applicable to the risk mitigation strategies associated with ‘education’ and ‘enforcement’ as defined by N.F.P.A. 1300.

Table 24: Community Risk Assessment 'Identified Risks'

C.R.A. Identified Risk	Risk Mitigation Strategy
The large geographic emergency response area may have a direct impact on travel time by C.F.E.S.	• Consideration for enhanced public education and outreach.
The presence of waterways within the Town of Caledon creates a potential need for specialized technical ice and water rescue services.	• Develop public education programs regarding safety around waterways in all seasons.
The geography of the Town of Caledon includes a large number of areas where there is wildland-urban interface that present the potential for a wildland fire.	• Develop public education program regarding wildland-urban interface risk. • Use open-air burning permit system and enforce non-compliance.
Group C-Residential occupancies represent 85.50% of the Town's existing property stock, and were associated with 72.19% of the historical structure fires during the period from January 1st, 2104 to December 31st, 2018.	• Future growth shifting from single-family to medium and high density housing. • Consideration for higher frequency of fire inspection and public educational programming.
83.42% of the Town's Group C-Residential occupancies are comprised of single-family houses as compared to 54.31% within the Province.	• 63.46% of the fire related incidents in these occupancies did not have working smoke alarms. • Consideration for enhanced fire safety audits.
33.47% of the Town's residential building stock was built prior to the adoption of the O.F.C. and as such represents a higher fire risk as a result of its age.	• Higher risk due to historical construction methods. • Consideration for enhanced fire safety audits.

C.R.A. Identified Risk	Risk Mitigation Strategy
The Town has 70 buildings with a total building area (footprint) that exceed 50,000 square feet (4,655 square metres). These buildings are predominantly located in the employment areas east of Bolton and in Mayfield West.	• Currently inspected based on complaint or request. • Consideration for enhanced fire inspection frequency. • Risk to employment base in the event of a fire.
The Town of Caledon currently has eight (8) registered vulnerable occupancies.	• Legislated annual inspection and evacuation process. • Identified vulnerable population where further education may be beneficial.
The Brampton Flight Centre presents a number of unique fire related risks associated with aircraft, supporting infrastructure and the potential transportation of dangerous goods requiring specialized fire protection services.	• Consideration for enhanced fire inspection frequency. • Consideration for specific pre-planning and fire suppression training.
Seniors (those 65 years and over) are considered to represent one of the highest fire risk groups across the Province based on the historical residential fire death rate. According to the 2016 Census, seniors represent 13.19% of the Town's total population.	• Consideration for enhanced public education and outreach. • Additional aging demographic between 45 and 64 representing 31.04% of population.
The sustainability of the volunteer firefighter organizational model could be impacted if a large portion of the volunteer firefighters are required to travel outside of the assigned response areas to seek employment.	• Increase complement of firefighters • Prioritize applicants with day time availability • Encourage Town employees to join C.F.E.S. as volunteer firefighters

C.R.A. Identified Risk	Risk Mitigation Strategy
Over the five year period from January 1st, 2014 to December 31st, 2018, in 63.46% of fire related incidents, the occupancies involved did not have the working smoke alarms required in the Province of Ontario.	• Consideration for enhanced Home-Safe-Home Program. • Consideration for enhanced fire safety audits. • Target seniors living independently or alone.
For the period from January 1st, 2014 to December 31st, 2018 there is a higher concentration of medical/resuscitator, false fire and fire/explosion calls in the areas of Bolton (Fire Station 302), Caledon East (Fire Station 303), Mayfield West (Fire Station 307), and Alton (Fire Station 301).	• Consideration for enhanced public education and outreach. • Consideration for enhanced fire safety audits.

C.F.E.S should also consider the "**key findings"** contained within the C.R.A. applicable to the risk mitigation strategies associated with 'education' and 'enforcement'. The complete list of key findings can be found in **Table 6** of this F.M.P. and includes the following:

- The Town of Caledon has an inventory of occupancies that may have a higher fire risk associated with a high volume of fuel load storage, or manufacturing/distribution process.
- 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.
- Over the five year period from January 1st, 2014 to December 31st, 2018 Caledon experienced a total of 109 structure fires in Group C - Residential occupancies (72.19%). This accounts for 87.77% of the Town's total fire loss for this period, which is 25.91% higher than the proportion of fire loss for Group C-Residential occupancies in the Province (61.97%).

- From January 1st, 2014 to December 31st, 2018, there were four reported injuries and one reported fire fatality within the Town of Caledon, all of which occurred in Group C – Residential occupancies.
- Of the fires occurring within the Town over the five year period from January 1st, 2014 to December 31st, 2018, 16.56% of the fires had a reported ignition source of "electrical distribution", which is 7.67% higher than the Province (8.89%).

Conducting a Community Risk Assessment, as required by **O. Reg. 378/18**, provides the opportunity to assess the current fire prevention and public education programs in relation to the identified fire risks within a community. The C.F.E.S. has developed and is providing a comprehensive fire prevention and public education program. It is important to this fire master planning process to recognize that the C.R.A. considers the existing fire related risks within a community. However, the current community risk assessment process does not fully consider the future growth of a community or the anticipated speed at which growth may be occurring.

The Town of Caledon is currently experiencing rapid community growth. As a result there are significant changes occurring in the type of building stock, e.g. transition from the historical single-family detached dwellings to medium and high density Group C Residential occupancies. The Town is also experiencing a related growth in population and change in demographics. The following sections present options for Council's consideration to better align the existing fire prevention and education programs and activities in response to the findings of the Community Risk Assessment, including the identification of additional programs or activities where they may be warranted. To support these initiatives, this F.M.P. also includes a proposed staff resource plan for the Fire Prevention/Public Education Division.

7.10 Proposed Fire Prevention/Public Education Program

This F.M.P. includes proposed strategic priorities that are intended to assist Council in its decision-making process towards supporting the delivery of fire protection services that provide the most effective and efficient level of services resulting in the best value for the community. Approving the proposed strategic priorities presented within this F.M.P. will result in the need for a further cultural shift within the C.F.E.S.

The C.F.E.S. has evolved from its historical roots within the volunteer fire service and its priority of providing fire suppression services.

The proposed strategic priorities presented within this F.M.P. are intended to form the foundation of cultural change within the C.F.E.S. that further prioritizes fire prevention and public education as the first two lines of defence in public fire safety.

Fire suppression services will continue to be a necessary service, however historical evidence and current industry best practices fully support the need to enhance community fire safety through the delivery of more proactive fire prevention and public education services.

7.10.1 Proposed Enhanced Fire Inspection Program

Based on our review of the Community Risk Assessment findings, there is evidence to support the development of an enhanced fire inspection program in the Town of Caledon. In our view, this should include further utilization of on duty fire suppression staff to conduct enhanced in-service pre-planning that also includes fire safety audit information targeting Group C Residential Occupancies.

7.10.1.1 Proposed Enhanced In-Service Fire Safety Audits

As indicated by the C.R.A., Group C-Residential occupancies represent 85.50% of the Town's existing property stock and account for 72.19% of the Town's historical structure fires. The Town is also undergoing a shift in the type of Group C-Residential occupancies from the historical single-family dwellings to higher density low-rise, mid-rise and high-rise property stock.

These factors warrant the proposed enhanced Home-Safe-Home Program and enhanced in-service fire safety audits of multi-unit residential buildings. In addition to developing pre-plans for these buildings, the proposed in-service fire safety audits should include the checking of all fire and life systems, including the fire alarm system, sprinkler systems., and fire department access. As the first point of contact for the C.F.E.S., the proposed in-service fire safety audits should prioritize the development of a fire safety relationship with building managers, operators and owners.

The development of this program should be informed by the following 'key findings' of the C.R.A. including:

- The percentage of fires determined to have been attributed to design/construction/maintenance deficiency by C.F.E.S. is 13.53%, higher than the Provincial statistic of 7.37% for the same period.

- Of the fires occurring in the Town over the five year period from January 1st, 2014 to December 31st, 2018, the leading cause of unintentionally set fires was due to mechanical/electrical failure at 25.88% (107 fires), compared to 15.45% (5,432 fires) in the Province.
- Of the fires occurring in the Town over the five year period from January 1st, 2014 to December 31st, 2018, the second most common cause of unintentionally set fires was due to misuse of ignition source at 22.94% compared to 29.96% in the Province.
- Of the fires occurring within the Town over the five year period from January 1st, 2014 to December 31st, 2018, 16.56% of the fires had a reported ignition source of “electrical distribution”, which is 7.67% higher than the Province (8.89%).
- Of the fires occurring within the Town over the five year period from January 1st, 2014 to December 31st, 2018, 11.26% of the fires had a reported ignition source of “open flame tools/smokers articles”, which is 2.46% lower than the Province (13.72%).
- Of the fires occurring within the Town over the five year period from January 1st, 2014 to December 31st, 2018, 10.60% of the fires had a reported ignition source of “Heating Equipment, chimney, etc.”, which is 2.78% higher than the Province (7.82%).

With appropriate training, on duty fire suppression staff will have the required skills and competencies to facilitate the proposed enhanced in-service fire safety audits in the Bolton and Mayfield West areas. These audits should prioritize the medium and higher density Group C-Residential occupancies. The volunteer firefighters should focus on delivery of the proposed enhanced Home-Safe-Home program in the remaining Group C-Residential occupancies within their defined response areas, including Station 302 (Bolton) and Station 307 (Valleywood).

It should be recognized that there will be a need for the Fire Inspectors to support these programs when Fire Code compliance cannot be achieved through the initial fire safety audit process. The result will be a higher workload demand on the Fire Prevention Division.

7.10.1.2 Proposed Enhanced Fire Inspection Cycle

Research indicates that during the five year period from January 1st, 2015 to December 31st, 2018, the C.F.E.S. conducted 1,112 complaint and request fire inspections in comparison to 395 routine fire inspections. In our view, this evidence is a clear indicator of a reactive versus proactive fire inspection program. The C.R.A. identified a number of 'identified risks' and 'key findings' that should be considered within the proposed enhanced fire inspection cycles including;

- The Town has 70 buildings with a total building area (footprint) that exceed 50,000 square feet (4,655 square metres). These buildings are predominantly located in the employment areas east of Bolton and in Mayfield West.
- The Town of Caledon currently has eight (8) registered vulnerable occupancies.
- The Brampton Flight Centre presents a number of unique fire related risks associated with aircraft, supporting infrastructure and the potential transportation of dangerous goods requiring specialized fire protection services.
- The Town of Caledon has an inventory of occupancies that may have a higher fire risk associated with a high volume of fuel load storage, or manufacturing/distribution process.
- In addition to registered vulnerable occupancies, the Town has 30 schools and 11 day care facilities that represent higher fire life-safety risks.
- 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.
- Industries within Caledon that are experiencing significant growth and major employers include the transportation, warehousing industries and the construction industry.
- Over the five year period from January 1st, 2014 to December 31st, 2018 structure fires occurring in Group F –Industrial occupancies accounted for 12.58% (19) of total structure fires within the Town.
- Over the five year period from January 1st, 2014 to December 31st, 2018 structure fires occurring in Group F –Industrial occupancies account for 9.14% ($1,853,500) of total structure fire loss within the Town, higher than the Province by 5.08%.

Table 25 illustrates the proposed enhanced fire inspection cycles. Achieving the proposed fire inspection frequencies will require further consideration of the current work load within this division and the available staff resources. As such, this F.M.P. includes a proposed staff resource plan.

Table 25: Proposed Enhanced Fire Inspection Cycles

Group	Occupancy Type	Proposed Fire Inspection Frequency
A	**Assembly**	Every 3 Years
B	**Care/Detention**	Annually
C	**Residential**	
	Low/rise multi-family	Proposed Enhanced In-service Fire Safety Audits
	High/rise multi-family	Proposed Enhanced In-service Fire Safety Audits
	Two unit residential	Proposed Enhanced In-service Fire Safety Audits
	Seniors residential	Proposed Enhanced In-service Fire Safety Audits
	Boarding, lodging, rooming	Proposed Enhanced In-service Fire Safety Audits
	Group homes	Proposed Enhanced In-service Fire Safety Audits
	Hotels/motels	Upon request or complaint
D	**Business & Personal Services**	
	High/rise office	Upon request or complaint
	Low/rise office	Upon request or complaint
E	**Mercantile**	
	Shopping centres	Upon request or complaint
	Shops/stores	Upon request or complaint
F	**Industrial**	
	F1-High Hazard	Annually
	F2-Medium Hazard	Every 3 Years
	F3-Low Hazard	Upon request or complaint

Source: C.F.E.S.

7.10.2 Proposed Enhanced Public Education Program

The proposed enhanced public education program has been directly informed by the 'identified risks' and 'key findings' identified by the Community Risk Assessment including:

- Over the five year period from January 1st, 2014 to December 31st, 2018 Caledon experienced a total of 109 structure fires in Group C-Residential occupancies (72.19%). This accounts for 87.77% of the Town's total fire loss for this period, which is 25.91% higher than the proportion of fire loss for Group C-Residential occupancies in the Province (61.97%).
- Of the fires occurring in the Town over the five year period from January 1st, 2014 to December 31st, 2018, the leading cause of unintentionally set fires was due to mechanical/electrical failure at 25.88% (107 fires), compared to 15.45% (5,432 fires) in the Province.
- Of the fires occurring within the Town over the five year period from January 1st, 2014 to December 31st, 2018, 16.56% of the fires had a reported ignition source of "electrical distribution", which is 7.67% higher than the Province (8.89%).
- Over the five year period from January 1st, 2014 to December 31st, 2018, of the fire loss incidents in Group C – Residential occupancies, 11.54% of incidents did not have a smoke alarm present compared to 17.31% in the Province.
- Over the five year period from January 1st, 2014 to December 31st, 2018, of the fire loss incidents in Group C – Residential occupancies, 36.54% of incidents had a smoke alarm present and operating compared to 44.57% in the Province.
- Of the Town's population, 31.04% fall into the age range of 45-64, representing a cohort aging towards the seniors demographic of 65 years or older.
- The 2016 Census data indicates that children aged 14 and under represent 18.58% of the Towns total population.

The C.F.E.S. has developed, and is currently providing a comprehensive public education program that is only limited by the staff resources and support available. The proposed enhanced public education program will require further consideration of the current work load within this division and the available staff resources. As such, this F.M.P. includes a proposed staff resource plan.

7.10.2.1 Optimization of Social Media

Fire services across the country are recognizing the value that social media can provide through enhancing community outreach and feedback. This value is not limited to just enhancing public education initiatives, it includes public assistance provided by social media while firefighters are on route to an emergency. Social media also has become one of the most effective tools for fire services to communicate to the public during an emergency incident.

In our view, consideration should be given to a review of the Town's current social media policies and procedures. This review should consider the benefits of providing specifically identified C.F.E.S. staff with the authority to enhance the department's community social media outreach capabilities to expand public education messaging, and support emergency response.

Operational Recommendation #12: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to expanding the social media capabilities of the C.F.E.S. to enhance its community social media outreach.

7.10.2.2 Community Partnerships

The C.F.E.S. has developed a number of community partnerships that support the current public education program. Several of the partnering community groups were contacted as part of the targeted stakeholder consultation process that was conducted to develop this proposed F.M.P. The feedback from these community groups fully supports the current support the C.F.E.S. provides agencies in promoting fire safety. Through discussions, further opportunities to target specific demographics within their stakeholders, such as seniors were identified.

Developing community partnerships is an effective strategy towards broaden general community engagement as well as increasing access to targeted demographics. It is recommended that the C.F.E.S. investigate expanding their existing community partnerships, and broadening the scope of existing partnerships with groups such as the Caledon Community Services and Caledon Seniors Centre.

Operational Recommendation #13: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. further investigate opportunities to expand its current community partnership initiatives.

7.10.2.3 Enhanced Public Education Reporting

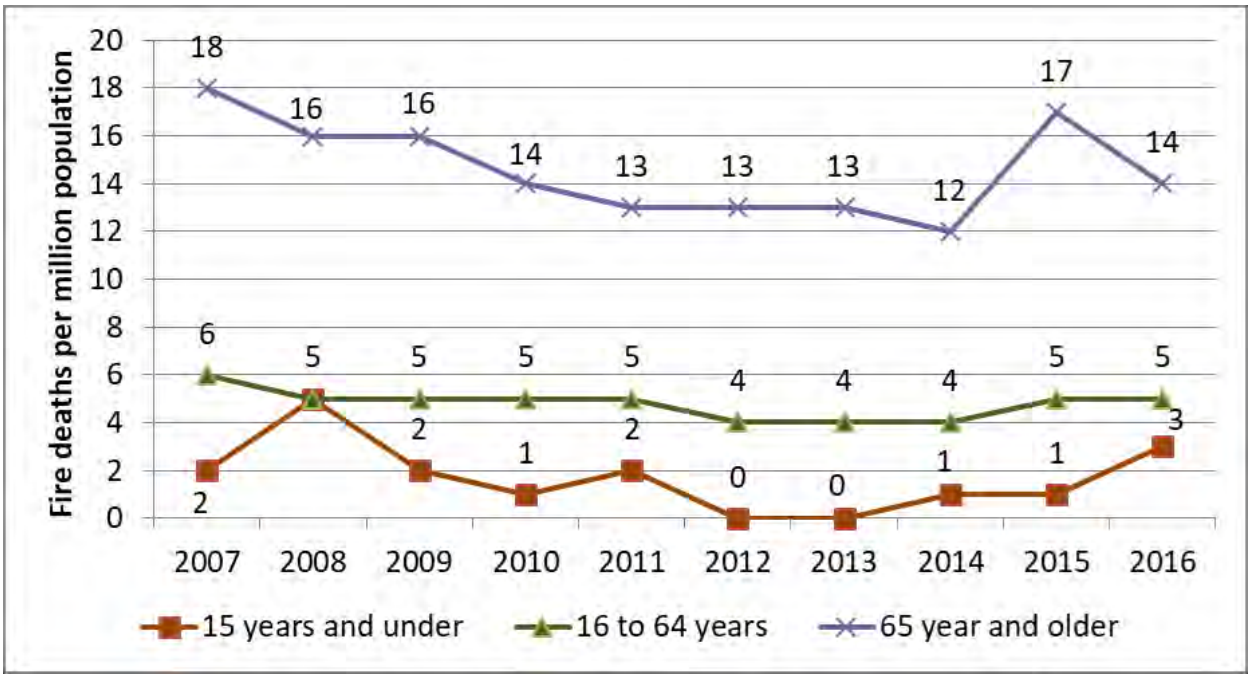
During the preparation of this F.M.P., the C.F.E.S. provided an overview of the department's current public education program. However, our research indicates that the department does not currently maintain detailed statistical information related to the amount of fire safety education material that is distributed on an annual basis. In some instances there is also a gap in the goals and objectives of each program in defining how the success of the program could be monitored and evaluated on an ongoing or annual basis. In our view, this gap further supports the need for the C.F.E.S. to upgrade its information technology and administrative processes to improve its records management process and reporting.

Operational Recommendation #14: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to enhancing the tracking of all workload associated with the C.F.E.S. public education programs as presented within the proposed Fire Master Plan.

7.10.2.4 Proposed Enhanced Senior Fire Safety Education Program

According to the 2016 census data presented within the C.R.A., seniors (those 65 years and over) represented 16.75% of Caledon's total population. In addition, 28.27% of the total population fall into the age range of 45 to 64, representing a cohort aging towards the seniors 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 (fire deaths per million of population) as shown in **Figure 6**.

Figure 6: O.F.M.E.M. Residential Fire Death Rate



Source O.F.M.E.M.

In our view, these factors warrant 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. The targeted public consultation process identified potential opportunities to formulate community partnerships for optimizing a targeted enhanced senior's 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.

Operational Recommendation #15: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to enhancing the fire safety program for seniors (65+) within the community as presented within the proposed Fire Master Plan.

7.10.2.5 Expansion of Existing Public Education Programs

The stakeholder consultation process that was conducted to inform this fire master planning process clearly identified that the current staff resources assigned to public education programs is working at capacity. The department consistently receives requests for more programming that currently cannot be supported. As in many areas of the department's service provision, community growth has exceeded capacity to sustain existing programs and services to a growing population.

In order to expand the department's existing public education program there is a warranted need to assess the current staff resource availability and support. This F.M.P. includes a proposed staff resource plan to support the proposed public education programing expansion.

7.11 Proposed Fire Prevention/Public Education Staff Resource Plan

To support the proposed strategic priorities presented within this F.M.P., the proposed fire prevention/public education staff resource plan incorporates the implementation of three primary initiatives: enhanced use of processes/technology, optimization of existing staff resources and consideration of additional full time staff resources. The proposed fire prevention/public education staff resources plan includes recommendations for each of the three initiatives. These strategies are also intended to form the foundation of a cultural change within the C.F.E.S. that will support the delivery of fire prevention and public education as the number one priority of the C.F.E.S.

7.11.1 Optimization of Existing Staff Resources

Our research indicates that full-time C.F.E.S. firefighters currently participate in delivering the Home-Safe-Home program and in-service fire prevention programs. This includes the full-time firefighters assigned to Fire Station 302 (Bolton) and 309 (Caledon Village) while they are on duty. It is our understanding that with the exception of the volunteer firefighters assigned to Fire Station 302 (Bolton), the volunteer firefighters deliver the departments Home-Safe-Home program in all other areas of the Town. This plan recommends enhancing the current Home-Safe-Home program with a focus on reducing the historical non-compliance of working smoke alarms within the Town.

During the stakeholder consultation process, the volunteer firefighters commented on the value they see in the current Home-Safe-Home program and expressed support to help enhance and expand the delivery of this program. In our view, this is a program and a role that is well aligned with the further optimization of the volunteer firefighters.

Operational Recommendation #16: That subject to Council's consideration and approval of the proposed Fire Master Plan, a representative group of the volunteer firefighters be consulted in developing a staff resource plan to deliver the recommended enhanced Home-Safe-Home program across the Town.

Through our discussions with the volunteer firefighters, and our research to prepare this F.M.P., we learned there are a number of C.F.E.S. volunteer firefighters who are qualified to the N.F.P.A. 1035 – Standard for Professional Qualifications for Fire and Life Safety Educator, Public Information Officer, and Juvenile Firesetter Intervention Specialist Level I. In our view, this is a valuable staff resource that could be utilized to expand the current public education programming staff resource capacity. Volunteer firefighters could be utilized to assist the current full-time Public Educator when delivering programs, or alternatively be further trained to deliver public education programs in their response areas or in response to other requests across the Town. In our view, a volunteer firefighter who is qualified to deliver public education programming should not be limited to delivering these programs only in their immediate fire suppression response area.

Operational Recommendation #17: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. develop a strategy to optimize the utilization of qualified volunteer firefighters in delivering the department's public education program.

In our view, consideration should be given to focusing the role of in-service programs conducted by the full-time firefighters on delivery the proposed enhanced in-service fire safety audits of Group C-Residential occupancies. Increasing the qualifications of an identified core group of full-time firefighters to the N.F.P.A. 1031 Fire Inspector I qualifications, would enable existing staff to be assigned responsibility for conducting the proposed fire safety audits as part of implementing the proposed enhanced fire inspection cycles. The proposed fire safety audits should not be confused with the complexities of the comprehensive fire safety inspections currently provided by the full-time Fire Inspectors.

However, the proposed fire safety audits provide an opportunity to target the Group C-Residential occupancies identified by the C.R.A. as being high-risk as a first step towards to evaluating Fire Code compliance and, if required, prioritizing the need for a comprehensive fire safety inspection by a full-time Fire Prevention Officer.

Operational Recommendation #18: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. optimize the utilization of full-time firefighters in delivering the proposed Enhanced In-Service Fire Safety Audits program.

7.11.2 Additional Full-time Staff Resources

In our view, if successfully implemented, the proposed optimization of existing staff resources including enhanced utilization of volunteer and full-time firefighters, will result in additional capacity to support the proposed fire prevention and public education programming presented within this F.M.P. The implementation of the proposed technology infrastructure implementation plan will also have a positive impact on the workload of current staff within this division.

However, these initiatives will not overcome the need for the Town to consider hiring additional full-time fire inspection and public education staff. As referenced throughout this F.M.P., the Town of Caledon is experiencing rapid community growth that is straining the current fire protection capabilities of the C.F.E.S. This community growth includes higher density residential building stock that require fire alarm systems, sprinkler systems and other fire and life safety measures. These fire and life safety systems require ongoing inspection to ensure compliance, and sustained community fire safety. The community is also experiencing high growth in employment lands, including large manufacturing and distribution building stock, requiring similar ongoing inspection to ensure fire and life safety compliance is maintained.

In the short-term (1 to 3 years), we recommend the Town hire an additional full-time Fire Prevention Officer with a minimum of the N.F.P.A. 1031 Fire Inspector II qualifications.

Council Recommendation #3: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to hiring an additional full-time Fire Prevention Officer within the short-term 1 to 3 year planning horizon.

We also recommend that Council begin the financial planning process to consider hiring an additional full-time Fire and Life Safety Educator with a minimum of the N.F.P.A. 1035 Level II qualifications. In our view, there is an immediate opportunity to further optimize the utilization of volunteer firefighters to support the department's public education program. Based on the anticipated success of this strategy, we recommend hiring the proposed additional full-time Fire and Life Safety Educator be considered within the 3 to 5 year financial planning horizon. However, this hiring may need to be expedited subject to the success of optimizing the volunteer firefighters in the short-term.

Council Recommendation #4: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to hiring an additional full-time Fire and Life Safety Educator within the mid-term 3 to 5 year planning horizon.

7.12 Administrative Processes, Technology and Records Management

As referenced throughout this proposed F.M.P., the department's current administrative processes predominantly utilize Microsoft Excel spreadsheets and Microsoft Word documents. Within the fire prevention and public education division there is a general absence of integrated technology that would enhance the efficiency of tasks such as fire inspection report preparation, records management and performance monitoring.

The new O. Reg. 378/18: Community Risk Assessments requires the Town to review and update the C.R.A. that has been prepared in conjunction with this fire master planning process on a regular basis. This will be a new administrative process for the C.F.E.S. that will require access to current statistics and information from this division, which in some instances is not easily accessible.

This proposed F.M.P. recommends that the C.F.E.S. prioritize a review of its current technology applications and develop a technology infrastructure implementation plan.

7.13 Fire Prevention and Public Education Division Summary

The analysis within this F.M.P. indicates that the Town of Caledon is currently meeting its legislated fire inspection and public education responsibilities as required by the F.P.P.A. The current fire prevention and public education programs provided by the C.F.E.S. 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 Council and the C.F.E.S. to align its fire prevention and public education with the “identified risk” and “key findings” of the C.R.A. analysis. Therefore, the recommendations for this division support a shift towards aligning the fire prevention and public education programs with the findings of the C.R.A. The recommendations presented also support the need for the department to implement a more comprehensive and ongoing process to assess the goals and objectives of each program with the associated workload. This process will allow for a more 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 F.M.P. recommends prioritizing the utilization of technology and a review of all current administrative processes to enhance the efficiency and effectiveness of the current staff within this division. This plan also recommends optimizing the further utilization of volunteer and full-time firefighters to deliver basic fire prevention and public education programs, allowing the more highly qualified fire inspection and public education staff to conduct complex and targeted fire protection programs. In our view, the implementation of these strategies should be priorities for Council and the C.F.E.S. In the short-term we believe there will be an identified need to hire one more Fire Prevention Officer (1 to 3 years), and in the mid-term (3 to 5 years), an additional, full-time Fire and Life Safety Educator.

It is recommended that subject to Council's consideration and approval of the proposed Fire Master Plan, the Caledon Fire and Emergency Services implement the following recommendations for the Fire Prevention Division include the following:

Council Recommendations:

3. **That consideration be given to hiring an additional full-time Fire Prevention Officer within the short-term 1 to 3 year planning horizon.**

4. **That consideration be given to hiring an additional full-time Fire and Life Safety Educator within the mid-term 3 to 5 year planning horizon.**

Operational Recommendations:

8. **That the C.F.E.S. investigate opportunities to further enhance the fire prevention and public education staff resource qualifications as referenced in the proposed Fire Master Plan.**

9. **That the current Fire Prevention Policy be reviewed and updated and then presented to Council for consideration and approval and then included within an updated Establishing, Maintaining, and Operating By-law as an appendix.**

10. **That C.F.E.S. develop an operational guideline on the development, approval, review, required qualifications to develop/approve, and the use of Fire Safety Plans.**

11. **That the C.F.E.S. review the current Home-Safe-Home Program to identify strategies to further enhance the effectiveness of this program in reducing the historical non-compliance of working smoke alarms in the Town of Caledon.**

12. **That consideration be given to expanding the social media capabilities of the C.F.E.S. to enhance its community social media outreach.**

13. **That the C.F.E.S. further investigate opportunities to expand its current community partnership initiatives.**

14. **That consideration be given to enhancing the tracking of all workload associated with the C.F.E.S. public education programs as presented within the proposed Fire Master Plan.**

15. **That that consideration be given to enhancing the fire safety program for seniors (65+) within the community as presented within the proposed Fire Master Plan.**

16. **That a representative group of the volunteer firefighters be consulted in developing a staff resource plan to deliver the recommended enhanced Home-Safe-Home program across the Town.**

17. **That the C.F.E.S. develop a strategy to optimize the utilization of qualified volunteer firefighters in delivering the department's public education program.**

18. **That the C.F.E.S. optimize the utilization of full-time firefighters in delivering the proposed Enhanced In-Service Fire Safety Audits program.**

8.0 Fire Suppression Division

To comply with the Fire Protection and Prevention Act, 1997 the Town of Caledon is required to **"provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances"**[10] which includes making an informed decision regarding the level of fire suppression services to be provided. O. Reg. 378/18: Community Risk Assessments was developed to assist Council in this decision making process and specifically requires that Council **"use its community risk assessment to inform decisions about the provision of fire protection services"**[11] including the level of fire suppression services to be provided.

The delivery of fire suppression services is recognized by the O.F.M.E.M. 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"**[12]. To assist Council in this decision making process the methodology presented within this section considers the 'identified risks' and 'key findings' identified by the companion Community Risk Assessment, the applicable Public Fire Safety Guidelines (P.F.S.G.s) authored by the O.F.M.E.M. and current industry best practices as presented within the applicable National Fire Protection Association standards.

8.1 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. As referenced in the previous section of this plan the F.P.P.A. requires that the level of fire suppression services within the municipality is the role of the municipal Council.

[10] Fire Protection and Prevention Act, 1997, Part II Responsibility for Fire Protection Services, Municipal Responsibilities, Section 2. (1) (b)
[11] Ontario Regulation 378/18 Community Risk Assessments, Mandatory Use, Part 1 (B)
[12] Office of the Fire Marshal and Emergency Management, Public Fire Safety Guideline 04-01-12 Selecting Fire Suppression Capability

To assist municipal councils in this decision making process the F.P.P.A. assigns powers to the Office of the Fire Marshal and Emergency Management that include responsibilities **"to issue guidelines to municipalities respecting fire protection services and related matters"**[13]. The O.F.M.E.M. complies with this requirement through the issuance of Public Fire Safety Guidelines (P.F.S.G.), Fire Marshal's Directives, Technical Guidelines, Communiques and other forms of communication. At this time all P.F.S.G. are under review but have been authorized by the O.F.M.E.M. for continued use for reference purposes. Where applicable P.F.S.G.s have been utilized within this F.M.P. to inform the analysis and to provide supporting reference documents.

8.1.1 P.F.S.G. 04-08-10 Operational Planning: An Official Guide to Matching Resource Deployment and Risk

P.F.S.G. 04-08-10 - Operational Planning: An Official Guide to Matching Resource Deployment and Risk was released by the O.F.M.E.M. in January 2011 and includes a "**Critical Task Matrix**" (C.T.M.) to assist municipalities in determining the level of fireground staffing capabilities based upon low, moderate, high and extreme risks. The C.T.M. is defined by the O.F.M.E.M. as "The Critical Task Matrix is based on the Incident Management System (I.M.S.). It will assist in identifying fireground staffing capabilities based upon low, moderate, high and extreme risk levels within your community. The Office of the Fire Marshal (O.F.M.) 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."[14]

The C.T.M. further recognizes that within the I.M.S. that:

- 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

[13] Fire Protection and Prevention Act, 1997 Part III Fire Marshal, Powers of the Fire Marshal Section 9.(1) (d)
[14] "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

- 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 fire safety plans
- Some tasks will never be assigned based on the tactical approach chosen by the incident commander (e.g. offensive versus defensive)

The C.T.M. 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 O.H.S.A. Section 21 Guidance Notes affecting firefighters, and industry best practices.

The Critical Task Matrix was informed by the N.F.P.A. 1710 and 1720 Standards in place at the time of its development. These standards are both identified in the reference section of P.F.S.G. 04-08-10. In contrast to these N.F.P.A. Standards the C.T.M. 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 C.T.M. 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.

8.1.2 N.F.P.A. 1710 Standard (2020 Edition)

In contrast to the O.F.M.E.M. Critical Task Matrix the **N.F.P.A. 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 N.F.P.A. 1710 Standard is designed for larger municipalities that, as a result of many factors, are operating their fire department utilizing only career (full-time) firefighters.

Relevant references from N.F.P.A. 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[15]
- 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[16]

These N.F.P.A. 1710 references support the strategic priority 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 N.F.P.A. 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, **Ontario Regulation 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 N.F.P.A. 1710 Standard requires that the fire suppression deployment model be informed by a formal Community Risk Assessment[17].

[15] N.F.P.A. 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
[16] N.F.P.A. 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
[17] N.F.P.A. 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 C.R.A. is now a mandatory requirement for all municipalities to comply with O. Reg. 378/18: Community Risk Assessments.

The N.F.P.A. 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
- High-Rise Full Alarm Assignment

8.1.2.1 Initial Arriving Company

The Initial Arriving Company is commonly referenced within the fire service as the initial responding apparatus deployed to respond 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. 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 N.F.P.A. 1710 Standard an **'Initial Arriving Company'** is referenced as an 'Engine Company' 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 N.F.P.A. 1710 fire suppression deployment model for the initial arriving company requires a minimum of four firefighters arriving on scene with an 'Engine Company' within a four minute (240 seconds) travel time to 90% of the fire suppression incidents.

8.1.2.2 Second Arriving Company

The N.F.P.A. 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, ladder companies, rescue companies, squad companies or multi-functional companies"[18]

The N.F.P.A. 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.

8.1.2.3 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 dispatched upon notification of a structure fire"[19]. An initial full alarm assignment represents the 'total' number of firefighters initially deployed to a structure fire.

[18] N.F.P.A. 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
[19] N.F.P.A. 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

In this deployment standard a single-family dwelling is defined as "a typical 2,000 ft^2 (186 m^2) two-story single-family dwelling without basement and with no exposures"[20]. This definition is a further example of the broad definitions utilized by the N.F.P.A. 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 N.F.P.A. 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.

8.1.2.4 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 ft^2 (1203 m^2) to 196,000 ft^2 (18,209 m^2). 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"[21]. In the Town of Caledon these services are provided by the Peel Regional Paramedic Services (P.R.P.S.). As such the total effective response force to be provided by the C.F.E.S. 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.

[20] N.F.P.A. 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

[21] N.F.P.A. 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)

8.1.2.5 Apartment – Initial Full Alarm Assignment

In this deployment standard an apartment is defined as a typical 1200 ft^2 (111 m^2) apartment within a three-story 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 P.R.P.S.

The applicable deployment model for the C.F.E.S. 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.

8.1.2.6 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 P.R.P.S.

The applicable deployment model for the C.F.E.S. 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.

8.1.2.7 Vertical Response Times

High-rise structure fires are unique in the method of fire suppression, as detailed in a publication by the N.F.P.A. called **Structural Firefighting: Strategy and Tactics**.[22] 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 26.** To climb to the tenth floor it would take a firefighter on average three minutes

Table 26: Vertical Response

Floors	Average Time per Floor in Seconds
1-10	20.8
11-20	27.8
21-30	33.6
31-40	45.9
41-48	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. 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.

[22] Source: Klaene, Bernard, Sanders, Russell, "Structural Firefighting: Strategy and Tactics," Jones & Bartlett Learning, 2007.

8.1.3 N.F.P.A. 1720 Standard (2020 Edition)

The N.F.P.A. 1720 standard further supports the minimum initial response staffing to include four firefighters including **"Initial firefighting operations shall be organized to ensure that at least four fire fighters are assembled before interior fire suppression operations are initiated in a hazardous area".** This particular standard recognizes that the four firefighters may not arrive on the same vehicle, but that there must be four on the scene prior to initiating any type of interior firefighting operations.

Within this standard the N.F.P.A. identifies five different categories described as 'Demand Zones' that relate to the type of risk that may be found within a typical community; either by population density, travel distance, or special circumstances. This standard then identifies a minimum level of firefighters that would be recommended for each of these fire demand zones. **Table 27** presents the N.F.P.A. 1720 (2020 Edition) standard minimum staffing levels by fire demand zone.

Table 27: N.F.P.A 1720

Fire Demand Zones	Demographics	Minimum # of Firefighters Responding	Response Time (Turnout + Travel) in Minutes	Performance Objective
Urban Area	>1000 people per square mile	15	9	90%
Suburban Area	500-1000 people per square mile	10	10	80%
Rural Area	<500 people per square mile	6	14	80%
Remote Area	Travel Distance + or – 8 miles	4	Dependent upon travel distance	90%
Special Risks	To be determined by Fire Department	To be determined by Fire Department	To be determined by Fire Department	90%

The N.F.P.A. 1720 standard utilizes population density as a factor in evaluating the minimum number of firefighters recommended for depth of response.

As a standard primarily for use by volunteer fire departments it recognizes lower population densities are typically found in smaller communities in comparison to much higher population densities found in large urban centres.

The N.F.P.A. 1720 standard identifies an initial response deployment of four firefighters to effectively, efficiently and safely conduct initial fire suppression operations.

The N.F.P.A. 1720 standard identifies a minimum deployment range of four to 15 firefighters depending on the risks associated with fire demand zones to effectively, efficiently and safely conduct initial fire suppression operations.

8.1.4 Summary of Fire Suppression Guidelines and Standards

The analysis within the preceding sections of this F.M.P. consider the current P.F.S.G's authored by the O.F.M.E.M. and the N.F.P.A fire suppression standards for identifying the applicable performance benchmarks for the delivery of fire suppression services within the Town of Caledon.

As referenced throughout this F.M.P., in 2013 the Province of Ontario adopted the N.F.P.A. Pro-Qual training standards. N.F.P.A. standards have now become the foundation of firefighter training programs, professional qualifications and reference documents for firefighter safety as contained with the O.H.S.A. Section 21 Guidance Notes for the fire service.

The use of N.F.P.A. fire suppression standards **are not** a legislated requirement for the delivery of fire suppression services within Ontario. However, they provide a recognized industry best practice that is supported by industry leading research and broad stakeholder input into their development. Within this F.M.P. the **N.F.P.A. 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)** and the **N.F.P.A. 1720 Standard for the Organization and Deployment of Fire suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments** have been utilized to assess the current fire suppression services provided by the C.F.E.S.

8.2 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 O.F.M.E.M. 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 ten 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 28**.

The fire growth rates are measured by the time it takes for a fire to reach a one megawatt (M.W.) fire. This is roughly equivalent to an upholstered chair burning at its peak. A two M.W. fire is approximately equal to a large upholstered sofa burning at its peak.

Table 28: Time to Reach 1 MW and 2 MW Fire Growth Rates in the Absence of Fire Suppression

Fire Growth Rate	Time in Seconds to Reach 1MW	Time in Seconds to Reach 2 MW
Slow	600 seconds	848 seconds
Medium	300 seconds	424 seconds
Fast	150 seconds	212 seconds

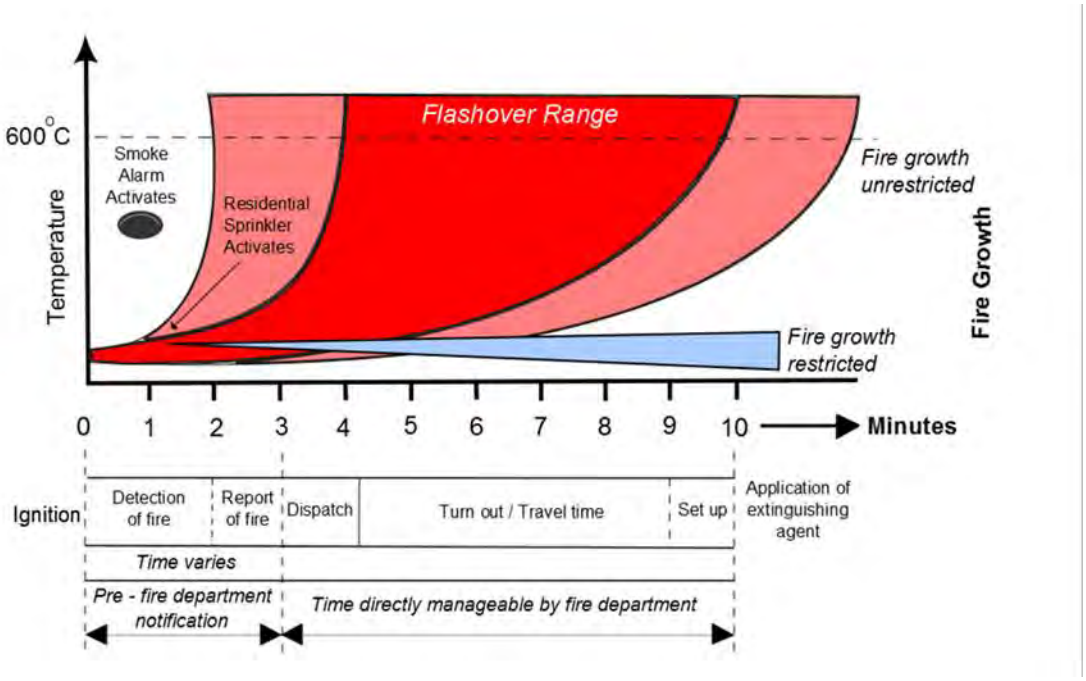
Source: "Operational Planning: An Official Guide to Matching Resource Deployment and Risk", Office of the Fire Marshal and Emergency Management, January 24, 2011, p. 4

In less than ten-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.

Within this pre-fire department notification period the presence of working smoke alarms, carbon monoxide 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 strategic priorities presented within this F.M.P. including that:

I. **The Caledon Fire and Emergency Services will prioritize the optimization of the first two lines of defence, including public education and fire prevention, and the utilization of fire safety standards and fire code enforcement as the foundation of providing a comprehensive fire protection program within the Town of Caledon.**

Figure 7: Example 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 N.F.P.A. "Fire Protection Handbook" (2001).

The fire propagation curve reflects the importance of time during the Detection 'detection – report' stage. This is the time period not impacted by any actions by the fire department.

The time period controlled by the fire department begins when the call is initially received by dispatch and includes several other components leading up to the initiation of intervention by fire suppression staff.

Understanding factors such as growth rate and time in terms of how quickly a fire can reach a critical stage such as flashover are important considerations in assessing fire suppression performance targets. For example, where areas of the community may have extended response times due to long travel times, the potential for the fire to have spread from the room of origin or to have already reached a flashover state will be significantly higher. In these situations, consideration should be given to the first two lines of defence including the provision of more public education and fire prevention activities as a means to inform the public on how to be prepared and react in the event of a fire.

8.2.1 Residential Sprinklers

In 2010, the province revised the O.B.C. to require sprinklers in all new residential occupancies exceeding three storeys in height. At that time the Fire Marshal of Ontario commented that “residential sprinklers are proven to significantly reduce injuries, deaths and property loss due to fires”[23]. A position paper authored by the Ontario Association of Fire Chiefs states that “The Ontario Association of Fire Chiefs (O.A.F.C.) supports changes to the Ontario Building Code to require that all new residential dwellings require the installation of residential fire sprinklers”[24].

Residential sprinklers are activated by a heat sensitive element contained in each sprinkler heads during the early stage of a fire. Once activated the sprinkler head releases a water mist designed to extinguish the fire and prevent its spread. As indicated by the fire propagation curve the activation of a residential sprinkler at the early stage of a fire can prevent the spread of the fire and reduce the production and spread of smoke.

[23] https://toronto.ctvnews.ca/ontario-requires-new-high-rises-to-have-sprinklers-1.303150
[24] https://www.oafc.on.ca/sites/default/files/attachments/page/1180/07-12-11%20Position%20Paper%20Residential%20Fire%20Sprinklers.pdf

8.3 Proposed Fire Suppression Emergency Response Performance Benchmarks

The 2018 F.M.P. recommended that the Town of Caledon begin tracking its fire suppression capabilities by implementing performance benchmarks related specifically to responding to fire related emergency calls. The proposed fire suppression performance benchmarks included:

- The initial deployment of four firefighters to all fire related incidents.
- The deployment of four firefighters to low risk occupancies, 14 firefighters to moderate risk occupancies, and 24 firefighters to high risk occupancies.
- A deployment benchmark including a minimum of six firefighters responding within a 14 minute response time (turnout time + travel time) to 80% of the fire related incidents within the entire municipality.
- A deployment benchmark including a minimum of ten firefighters responding within a ten minute response time (turnout time + travel time) to 80% of the fire related incidents within the defined Bolton Rural Service Centre.

Since 2018 there have been a number of significant changes within the fire service, including the implementation of O. Reg. 378/18 Community Risk Assessments and the adoption of new N.F.P.A. 1710 and 1720 standards in 2020. As a result, this F.M.P. as identified the following proposed strategic priorities for Council's consideration in guiding the delivery of fire protection services within the community including:

- The Town of Caledon is committed to the annual review of a Community Risk Assessment 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 Caledon Fire and Emergency Services.
- The Caledon Fire and Emergency Services will prioritize the optimization of the first two lines of defence, including public education and fire prevention, and the utilization of fire safety standards and fire code enforcement as the foundation of providing a comprehensive fire protection program within the Town of Caledon.
- The Caledon Fire and Emergency Services will specifically prioritize 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 Town of Caledon will continue to prioritize strategies that support the sustainability of a 'composite fire department' and the delivery of fire protection services that provide the most effective and efficient level of services resulting in the best value for the community.

8.3.1 Response Time Performance Benchmark

An analysis of the relevant N.F.P.A. Standards indicates that the Town of Caledon is defined as a volunteer fire department (89% volunteers); therefore the N.F.P.A. 1720 Standard is the most appropriate benchmark to apply.

To assess the applicable NFPA 1720 fire demand zones research into the Town's current and projected population including the population of the rural service centres, villages, and hamlets was conducted. **Figure 8** illustrates the defined Settlement Areas. This research identifies that a significant proportion of the Town's population is currently located in the Bolton Rural Service Centre with considerable growth planned for the Mayfield West area within the next ten years.

TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

Town of Caledon Settlment Areas
Figure 8

- Fire Station
- Municipal Boundary

Road Classification
- Provincial Highway
- Regional Road
- Local Road - Major
- Local Road - Minor

Settlement Area Type
- Rural Service Centre
- Village
- Hamlet
- Industrial/Commercial Centre

0 0.5 1 2 km

1:120,000

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 202879
STATUS: DRAFT
DATE: 2020-10-30

FILE LOCATION: C:\Users\31JH\Desktop\CRA_Caledon\Settlement Areas.mxd

8.3.1.1 Municipal Population Density

Recognizing the Town of Caledon's pace of growth and that the most recent Census year is 2016, Dillon requested updated population information from the Town to inform the population density analysis. The 2018 F.M.P. referenced population information from the 2011 Census. The Town provided 2020 population estimates for: the Town as a whole, Bolton, and Mayfield West. These estimates are based in part on building permits and typical growth rates.

The Town of Caledon estimates a 2020 municipal population of 76,400 with an area of 688.15 square kilometers (265.70 square miles), based on Statistics Canada land area.[25] This represents a population density for the entire municipality of 287.54 people/square mile (76,400 people divided by 265.70 square miles).

While some of the rural service centres, villages, and hamlets may have a population density where an applicable N.F.P.A. 1720 benchmark of Suburban or Urban Demand Zone could apply, based on the geographic size of these areas and the actual overall population, in our view it is more appropriate to benchmark the entire municipality to the N.F.P.A. 1720 Rural Demand Zone deployment. The 2018 F.M.P. recognized that the Bolton Rural Service Centre is an exception to this due to its size, population and related density. Due to the pace of growth for Mayfield West Rural Service Centre, this F.M.P. Update further recognizes Mayfield West as its own demand zone.

Council Recommendation #5: That subject to Council's consideration and approval of the proposed Fire Master Plan, the Town of Caledon should strive to achieve a fire suppression deployment benchmark including a minimum of six firefighters responding within a 14 minute response time (turnout time + travel time) to 80% of the fire related incidents within the entire municipality.

[25] Note that the land area of the Town of Caledon based on municipal G.I.S. data is 268.72 square miles. Using this land area, the estimated 2020 population density of the Town would be 284.31 persons per square mile.

8.3.1.2 Mayfield West Rural Service Centre

The 2018, F.M.P. indicated that the planned development of Mayfield West should be monitored as it becomes a reality with consideration to assessing and evaluating the emergency response coverage. This F.M.P. update recognizes that the timing of growth in Mayfield West has outpaced original assumptions. Based on 2020 population estimates, Mayfield West has a population density of 3,477 people/square mile (13,800 people per the 2020 population estimate divided by 4.0 square miles of existing Rural Service Centre area).[26]

Based on this population density, the Town of Caledon should be striving to achieve the NFPA 1720 Urban Demand Zone Standard for the Mayfield West Rural Service Area. This performance measure requires a firefighter deployment of a minimum of 15 firefighters responding in a turnout time + travel time of 9 minutes to 90% of the fire related incidents. Aligned with the strategy of focusing on continuous improvement in our view, it is more appropriate to apply the N.F.P.A. 1720 Suburban Demand Zone Standard.

Council Recommendation #6: That subject to Council's consideration and approval of the proposed Fire Master Plan, the Town of Caledon should be striving to achieve a fire suppression deployment benchmark including a minimum of ten firefighters responding within a ten minute response time (turnout time + travel time) to 80% of the fire related incidents within the defined Mayfield West Rural Service Centre.

[26] Future population density is anticipated to be 7,360 people/square mile (32,072 people divided by 4.4 square miles).

8.3.1.3 Bolton Rural Service Centre

The Bolton Rural Service Centre houses approximately 35% of the Town's 2020 estimated population. This includes a population density of 3,641 people/square mile (27,120 people per the 2020 population estimate[27] divided by 7.4 square miles[28]). Based on this population density, the Town of Caledon should be striving to achieve the NFPA 1720 Urban Demand Zone Standard for the Bolton Rural Service Area. This performance measure requires a firefighter deployment of a minimum of 15 firefighters responding in a turnout time + travel time of 9 minutes to 90% of the fire related incidents.

As indicated previously, the NFPA 1720 Urban Area Demand Zone deployment closely matches the performance measures of a full-time fire department. Our assessment of the existing firefighter deployment capabilities of the C.F.E.S. included within this fire master planning process indicates that this performance measure significantly exceeds the department's current firefighter deployment capabilities.

As such, this F.M.P. update continues to support the strategy of focusing on continuous improvement as supported by the Commission on Fire Accreditation International (CFAI). Considering the Town of Caledon has classified the Bolton area as a Rural Service Centre not an urban centre, and the NFPA 1720 Urban Area Demand Zone significantly exceeds the C.F.E.S. current service level, in our view it is more appropriate to apply the NFPA 1720 Suburban Demand Zone Standard. Therefore, the application of the NFPA 1720 Suburban Area Demand Zone is presented as a more applicable performance benchmark for assessing the current and future options for deploying the minimum number of firefighters and response time (turnout time + travel time) within the identified Bolton Rural Service Centre area of the Town of Caledon with a performance objective of 80%.

[27] Note that the 2020 population estimate for the Bolton Service Centre is lower than the 2011 Census data plus undercount as provided by the Town (referenced in the 2018 F.M.P.). The information provided by the Town at the time of the 2018 F.M.P. was based on the best available information. The Town confirmed that it is appropriate to use the 2020 population estimate for the purposes of this Update.

[28] Note that the land area for the Bolton Rural Service Centre demand zone is larger in this Update as compared to the 2018 F.M.P.; the Update land area includes the Coleraine West Employment Area within the Bolton Rural Service Centre.

Council Recommendation #7: That subject to Council's consideration and approval of the proposed Fire Master Plan, the Town of Caledon should be striving to achieve a fire suppression deployment benchmark including a minimum of ten firefighters responding within a ten minute response time (turnout time + travel time) to 80% of the fire related incidents within the defined Bolton Rural Service Centre.

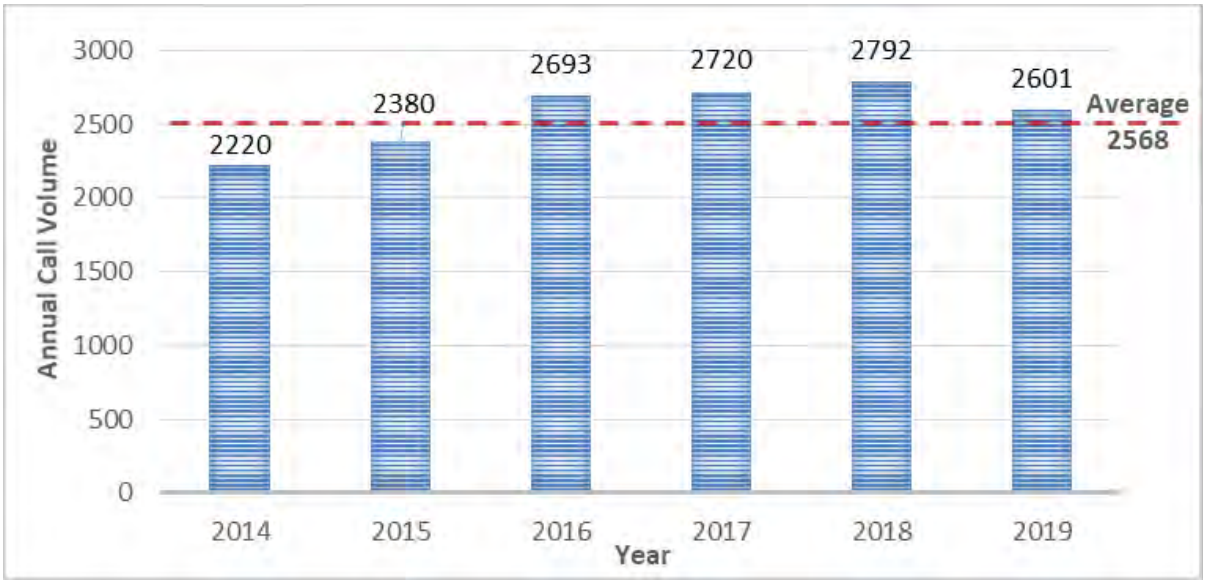
8.4 Historical Emergency Response Performance

The analysis of the Town's historical emergency response performance provides a statistical assessment of the historical emergency call volumes through assessing different time segments (e.g. annual calls, monthly calls, weekly calls, daily calls, types of calls etc.). As referenced in the Community Risk Assessment, as a result of the current COVID-19 pandemic, the provincial historical fire related statistics are currently only available for the time period ending December 31st, 2018. Therefore, the provincial comparative analysis presented in this section includes a comparison of the provincial historical emergency response event history in comparison to that of the Town of Caledon for the period from January 1st, 2014 to December 31st, 2018 only.

Figure 9 illustrates Caledon's historical total emergency call volume by year for the period from January 1st, 2014 to December 31st, 2019 (complete six-year data set). This analysis indicates that during this period the total emergency call volume increased from 2,220 to 2,601 total calls representing a 17.16% increase. In 2019, the total emergency call volume declined by 6.84% from 2,792 calls in 2018 to 2,601 calls in 2019. In consultation with C.F.E.S. senior staff, this decline can largely be attributed to the revisions made to the Tiered Response Agreement with the Peel Region Paramedic Services in 2018 that has reduced the number of medical/resuscitator calls the C.F.E.S. is responding to. Due to the application of the O.F.M.E.M. response codes, this decline is evidenced in the reduction in the number of 'other responses' category.

Although the total annual emergency call volume decreased from 2018 to 2019 by 6.84%, the 2,601 total emergency calls in 2019 remains 1.28% higher than the average total annual emergency call volume of 2,568 calls per year over this six year period.

Figure 9: Emergency Call Volume



Source C.F.E.S. Emergency Response Call Data

8.4.1 Emergency Call Volume by Station

Table 29 illustrates the distribution of the total emergency call volume by station for the period from January 1st, 2014 to December 31st, 2019. This analysis identifies that Station 302 (Bolton) responded to 43.12% of the total emergency calls that the C.F.E.S. responded to during this six year period. During this same six year period, Station 307 (Valleywood) responded to the second highest percentage of 13.56%, and Station 303 (Caledon East) responded to the third highest total of emergency calls during this period representing 11.33% of the total emergency calls.

Table 29: Historical Emergency Call Volume by Station

Station	2014	2015	2016	2017	2018	2019	Total	%
Station 301 (Alton)	125	89	133	130	111	121	709	4.63%
Station 302 (Bolton)	962	1,094	1,143	1,152	1,196	1,055	6,602	43.12%
Station 303 (Caledon East)	243	283	321	303	308	277	1,735	11.33%
Station 304 (Cheltenham)	112	99	111	111	138	129	700	4.57%
Station 305 (Inglewood)	167	183	187	158	153	168	1,016	6.64%
Station 306 (Palgrave)	109	108	111	80	106	108	622	4.06%
Station 307 (Valleywood)	241	262	333	434	396	410	2,076	13.56%
Station 308 (Mono Mills)	149	151	197	121	154	155	927	6.06%
Station 309 (Caledon Village)	110	110	156	183	185	178	922	6.02%
Total	**2,218**	**2,379**	**2,692**	**2,672**	**2,747**	**2,601**	**15,309**	**100%**

Table 30 illustrates that between 2014 and 2019 the total emergency call volume from Station 307 (Valleywood) has increased by 70.12% and Station 309 (Caledon Village) has increased by 61.82%.

Table 30: Emergency Call Volume Increase by Station

Station	2014	2019	% Increase
Station 301 (Alton)	125	121	(3.20%)
Station 302 (Bolton)	962	1,055	10.71%
Station 303 (Caledon East)	243	277	13.99%
Station 304 (Cheltenham)	112	129	15.18%
Station 305 (Inglewood)	167	168	0.60%
Station 306 (Palgrave)	109	108	(0.92%)
Station 307 (Valleywood)	241	410	70.12%
Station 308 (Mono Mills)	149	155	4.03%
Station 309 (Caledon Village)	110	178	61.82%

8.4.2 Emergency Response Call Types

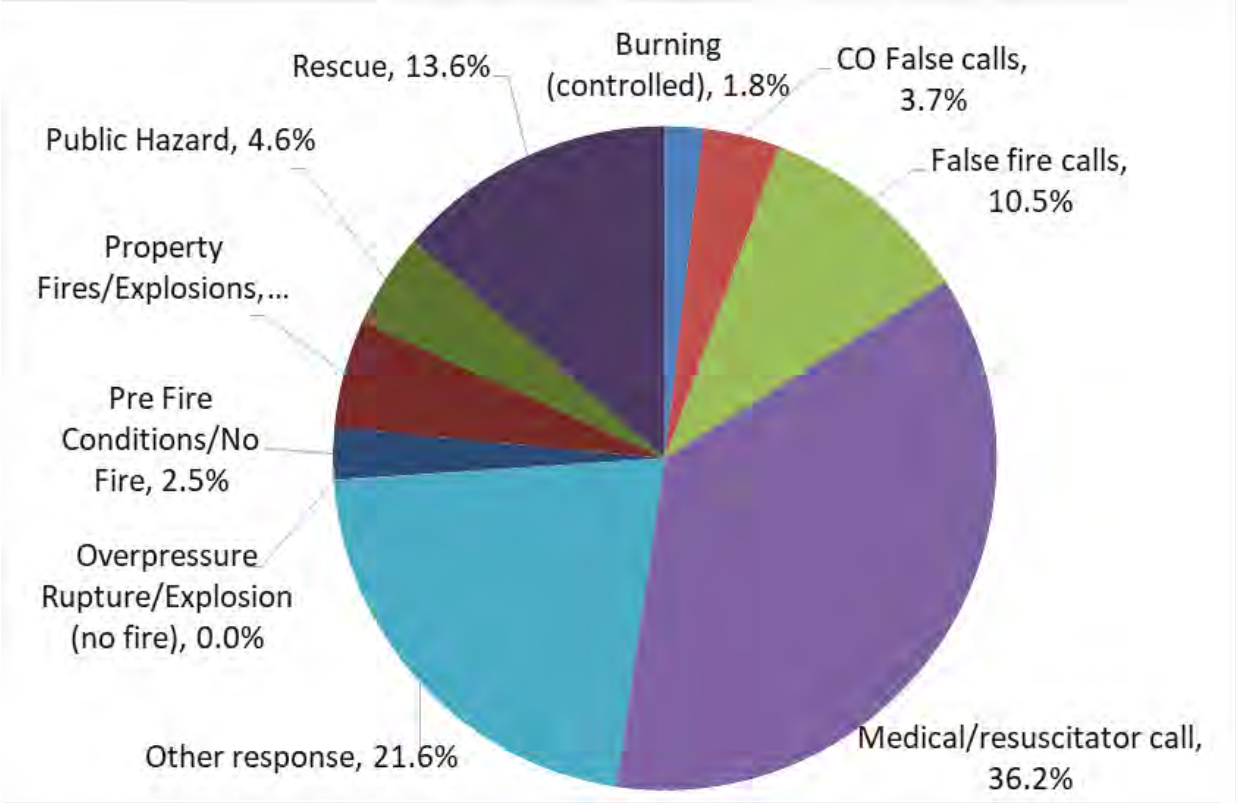
Throughout this section, emergency calls are referred to and categorized by response type. Response types are defined by the O.F.M.E.M. and are used by jurisdictions throughout Ontario for comparative reporting purposes. O.F.M.E.M. defined response types are listed as follows:

- Burning Controlled
- C.O. False Calls
- False Fire Calls
- Medical/Resuscitator Calls
- Other Responses
- Overpressure Rupture/Explosion (No Fire)
- Pre-Fire Conditions/No Fire
- Property Fires/Explosion
- Public Hazard

8.4.3 Emergency Call Volume by Response Type

A more detailed analysis of emergency call volume response is presented in **Figure 10,** illustrating that for the period from January 1st, 2014 to December 31st, 2019 the highest percentage of emergency calls were medical/resuscitator calls, which accounted for 36.2% of all emergency calls. The second highest type of emergency calls were other responses representing 21.6% of C.F.E.S. call volume. Rescue calls account for 13.6% of all emergency response calls, while calls for false fire calls account for 10.5% of emergency calls for this six year period.

Figure 10: Percentage of Caledon Emergency Calls by O.F.M.E.M. Response Type January 1st, 2014 to December 31st, 2019



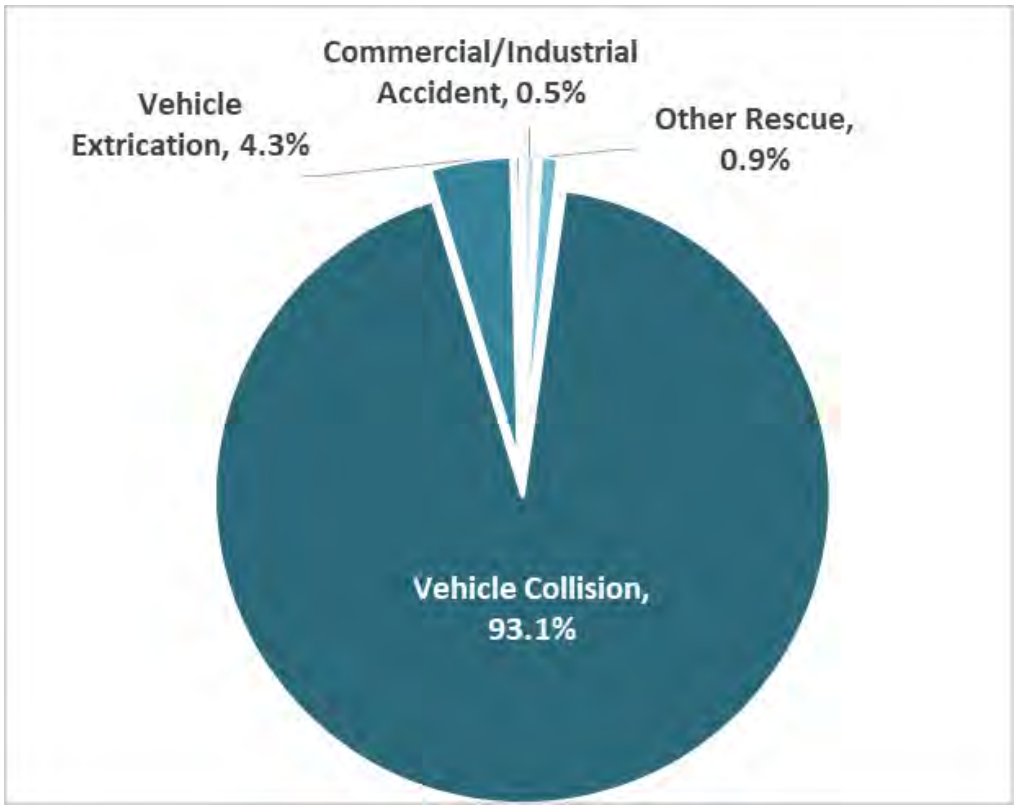
Source: C.F.E.S.

8.4.3.1 Percentage of Rescue Calls

As shown in **Figure 11,** vehicle collisions represent 93.1% of the rescue calls. Vehicle extrication represents 4.3% of rescues calls. Motor vehicle collisions as a whole (vehicle collisions plus vehicle extrication), represent 97.4% of rescue calls. The high proportion of motor vehicle collisions is a common characteristic of a community with several King's Highways (Highway 9, 10, 50) and a 400-series highway (Highway 410).

Figure 11 does not display technical rescues (with the exception of vehicle extrication). The Town of Caledon also responds to low angle rescue, high angle rescues, and water/ice rescues. However, the number of calls is low resulting in a percentage of 0.9% of all rescue incidents.

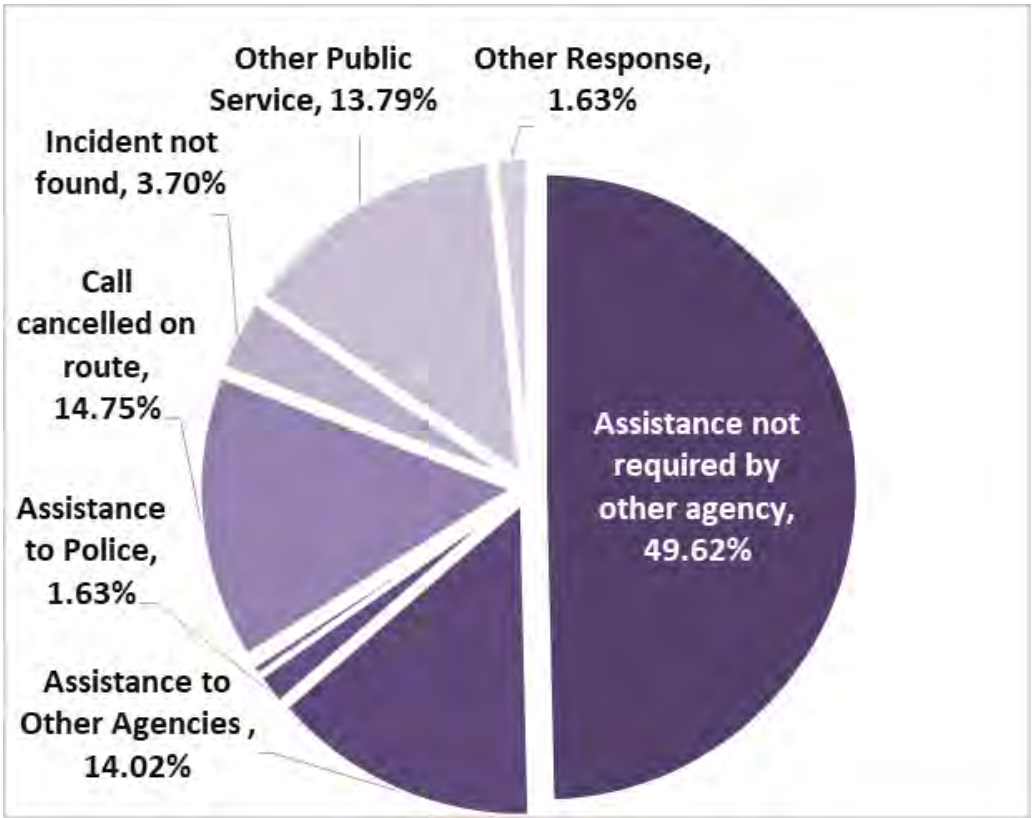
Figure 11: Percentage of Rescue Calls



8.4.3.2 Percentage of Other Calls

As shown in **Figure 12, t**he percentage of assistance not required by other agency accounts for 49.62% of the C.F.E.S. other call volume and calls cancelled on route account for a further 14.75% of other calls.

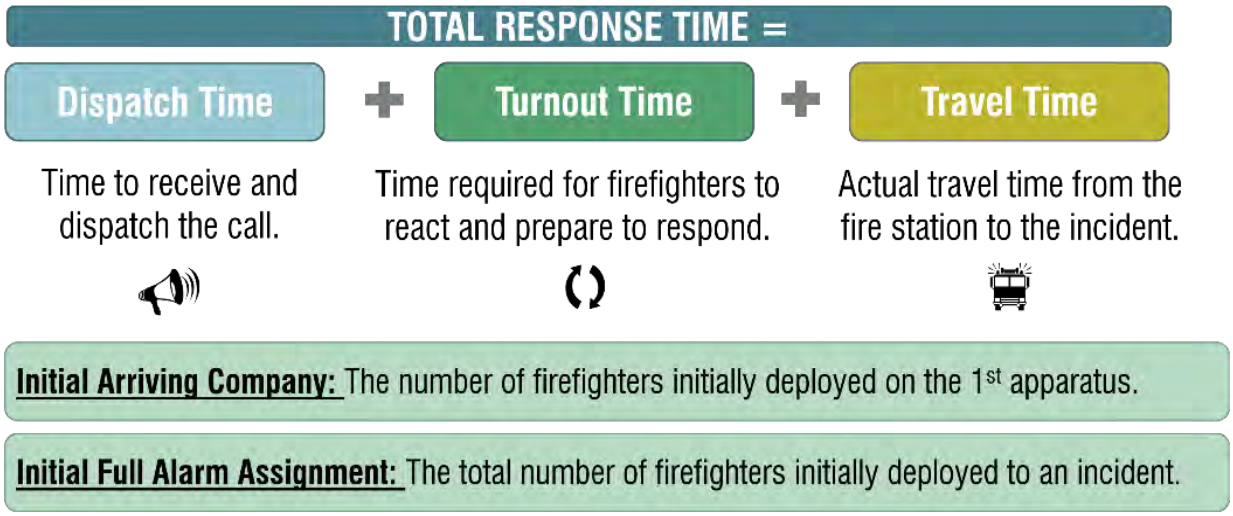
Figure 12: Percentage of Other Calls



8.5 Historical Fire Suppression Emergency Response Analysis

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 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.

8.5.1 Emergency Calls – Dispatch Time

In Canada, the Canadian Radio-television and Telecommunications Commission (C.R.T.C.) 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.

This is because the applicable **N.F.P.A. 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (2019 Edition)** applies only when the Authority Having Jurisdiction (A.H.J.)[29] in this instance being the Mississauga Central Ambulance Communications Centre takes control of the "Emergency Event Processing/Dispatching"[30] process.

The **N.F.P.A. 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 (E.R.F.s) and emergency response units (E.R.U.s)."[31]

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 N.F.P.A. 1221"[32].

8.5.2 C.F.E.S. Dispatch Historical Dispatch Time Analyses

Figure 14 presents a summary of the 90th percentile historical dispatch times for emergency type calls from 2014-2019.

Based on the N.F.P.A. standard, the 90th percentile aggregate dispatch times for C.F.E.S. for six year period 2014 to 2019 is 81 seconds for fire calls, which exceeds the performance benchmark by 17 seconds. The 90th percentile aggregate for medical calls is 24 seconds, which is below the standard. The 90th percentile aggregate for other calls is 64 seconds.

[29] N.F.P.A. 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications SystE.M.S. (2019 Edition), Chapter 3 Definitions, Section 3.2.2 Authority Having Jurisdiction.

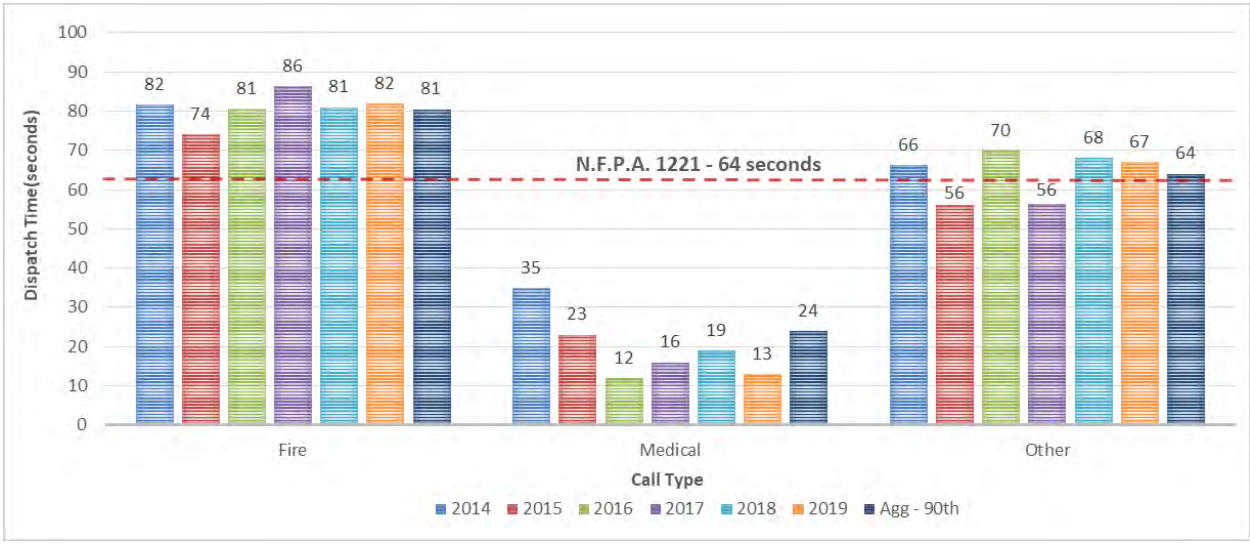
[30] N.F.P.A. 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications SystE.M.S. (2019 Edition), Chapter 3 Definitions, Section 3.3.50 Emergency Event Processing/Dispatching.

[31] N.F.P.A. 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.

[32] N.F.P.A. 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.

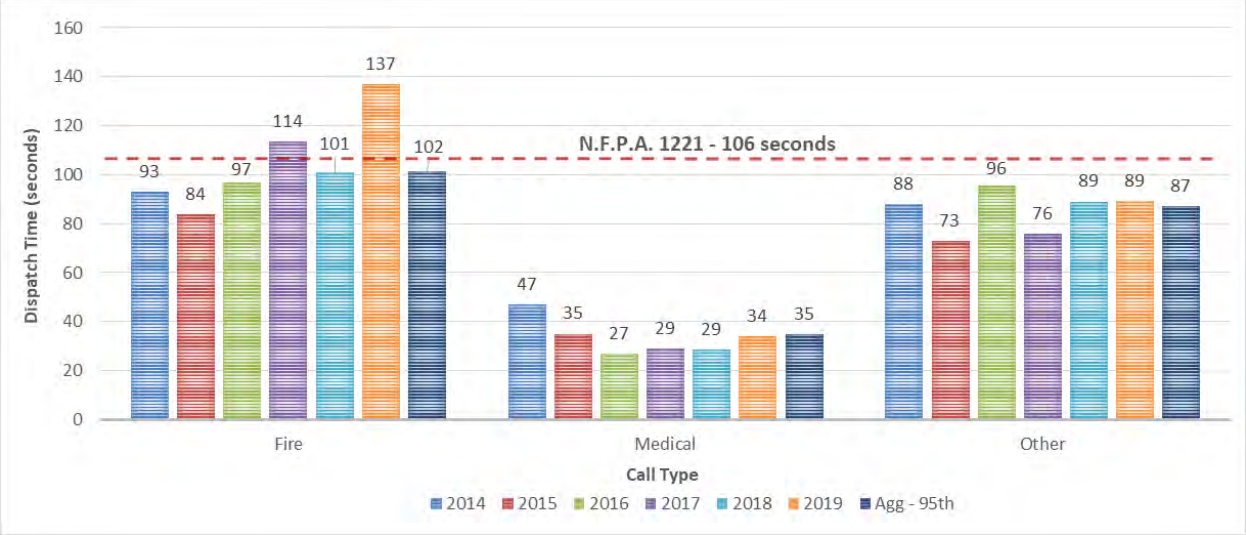
During the same time period the C.F.E.S. completed emergency alarm processing within 64 seconds for 81.49% of fire calls, 98.47% of medical calls, and 89.01% of other calls.

Figure 14: 90th Percentile Dispatch Time



Based on the current N.F.P.A. 1221 standard, the 95th percentile aggregate dispatch times for C.F.E.S. for six year period 2014-2019 is 106 seconds for fire calls, 35 seconds for medical calls, and 87 seconds for other calls. The C.F.E.S. completed emergency alarm processing within 106 seconds for 94.53% of fire calls, 99.48% of medical calls, and 96.39% of other calls. The overall trend for this performance measure is illustrated in **Figure 15.** This analysis indicates that the current fire dispatching process is not achieving the recognized industry best practices 90th percentile emergency alarm processing standard. This analysis further indicates that the current fire dispatching process is not achieving the 95th percentile emergency alarm processing standard.

Figure 15: 95th Percentile Dispatch Time



8.5.3 Emergency Calls Turnout Time

Turnout Time within the fire service is defined as: *"the time interval that begins from when the emergency response staff receives the required dispatch notification, and ends at the beginning point of travel time."*

Turnout times can vary significantly based on the use of either full-time or volunteer firefighters. Full-time firefighters have the benefit of being located within the fire station and are able to receive the call and safely staff the apparatus ready for response in a very short time frame. Best practices reflect a 60 to 80 second turnout time for full-time firefighters depending on the nature of the call.

In comparison, volunteer firefighters must first receive the call to respond (via pager) travel to the fire station and then safely staff the apparatus in preparation for response. Volunteer firefighter turnout times can vary significantly depending on the location and availability of the individual when the call is received. This variable can have a significant impact on a fire department's response time (turnout time + travel time).

8.5.3.1 C.F.E.S. Historical Turnout Times

In our experience, the turn out time of the volunteer firefighters is one of the most significant challenges in delivering consistent fire suppression services. The analysis of historical turnout times for the C.F.E.S. identifies the current volunteer turnout time challenges for each station within the C.F.E.S.

To complete this analysis the 80th percentile staffing level (# of firefighters) for each station/responding apparatus was calculated based on the emergency calls that occurred during the period 2014 to 2019. A similar analysis of the 80th percentile performance was conducted for the turnout time that each apparatus responded from each station.

The resulting 80th percentile historical turnout time was then assessed based on the time of day. Two scenarios were developed to identify the historical turnout time performance of the C.F.E.S. The first scenario evaluated historical 80th percentile turnout time performance for the period from Monday through Friday (weekday) during the hours from 7am to 6pm, and the second scenario assesses the remainder of the time representing evenings and weekends (all other times).

Historical Turnout Time – Monday through Friday Daytime

Table 31 illustrates the number of firefighters (# of staff) and turnout time of the apparatus from each station during the weekday (Monday to Friday, 7 am – 6 pm). This analysis highlights the difference between the turnout time of full-time firefighters at Station 302 (Bolton) and the turnout time of volunteer firefighters at the other stations.

This analysis also highlights the wide range of turnout times at the stations staffed by volunteer firefighters. Stations 303 (Caledon East), 305 (Inglewood), 307 (Valleywood), and 308 (Mono Mills) all have historical turnout times that are less than 6:51. Stations 301 (Alton) and 306 (Palgrave) have historically exceeded an 8 minute turnout time for the first apparatus. The 2018 F.M.P. identified the weekday turnout time for Station 309 (Caledon Village) as 9:30. The addition of two full-time firefighters at Station 309 (Caledon Village) in July 2016 has improved the turn out time Monday to Friday from 7a.m. to 6 p.m.

Of equal importance to the turnout time is the number of firefighters (# of staff) responding on each apparatus. This F.M.P. recommends a minimum of 4 firefighters responding on the 1st apparatus.

This analysis highlights that only Stations 302 (Bolton with full-time firefighters), 304 (Cheltenham), and 308 (Mono Mills) with volunteer firefighters currently achieving this level of firefighter deployment during the weekday.

With the exception of Station 302 (Bolton) this analysis also highlights the incremental increase in turnout time and staffing levels of the second and third apparatus. Station 304 (Cheltenham) and Station 301 (Alton) only have two apparatus.

Table 31: Historical Turnout Times by Station Monday through Friday Daytime

Turnout Time – 80th Percentile during the Weekday (7am – 6pm)			
Station	**1st Apparatus (# of Staff)**	**2nd Apparatus (# of Staff)**	**3rd Apparatus (# of Staff)**
Station 301 (Alton)	10:17 (3)	12:01 (2)	---
Station 302 (Bolton)	02:01 (4)	09:53 (3)	09:39 (2)
Station 303 (Caledon East)	06:18 (4)	08:15 (3)	08:49 (3)
Station 304 (Cheltenham)	07:07 (5)	07:42 (4)	---
Station 305 (Inglewood)	04:42 (3)	04:48 (2)	08:44 (3)
Station 306 (Palgrave)	08:40 (3)	13:56 (3)	13:39 (2)
Station 307 (Valleywood)	05:12 (3)	06:35 (2)	11:01 (3)
Station 308 (Mono Mills)	06:46 (4)	15:37 (2)	16:19 (3)
Station 309 (Caledon Village)	06:56 (2)*	08:44 (2)	10:36 (3)

* Note: The 80th percentile turnout time for Station 309 is based on turnout times of volunteer firefighters as well as full-time firefighters. The dataset includes several months where there were no full-time staff in the station (from January 2014 to June 2016). The dataset also includes weekday hours outside of the shift of the full-time firefighters (which is 8:00AM to 4:30PM Mon-Thurs and 8:00 to 4:00PM Friday).

Historical Turnout Time – All Other Times

Table 32 illustrates the staffing and turnout times of the apparatus from each station excluding Monday through Friday from 7am to 6pm (All other times). In comparison to weekday, this analyses highlights improvements in turnout time of the first apparatus at

all other times at three of the stations including Station 301 (Alton), 304 (Cheltenham), 306 (Palgrave). In addition to some improved turnout times, the number of firefighters responding on the first apparatus improves to the recommended minimum of four firefighters at all of the stations.

This analysis further highlights the challenge of recruiting and retaining volunteer firefighters that are consistently available Monday through Friday from 7 am to 6 pm.

Table 32: Historical Turnout Times by Station during All Other Times

Turnout Time – 80th Percentile All Other Times			
Station	**1st Apparatus (# of Staff)**	**2nd Apparatus (# of Staff)**	**3rd Apparatus (# of Staff)**
Station 301 (Alton)	08:54 (4)	13:45 (3)	12:58 (3)
Station 302 (Bolton)	02:17 (4)	09:58 (4)	24:12 (4)
Station 303 (Caledon East)	06:52 (4)	09:00 (3)	08:36 (3)
Station 304 (Cheltenham)	07:06 (5)	3:36 (4)	---
Station 305 (Inglewood)	04:57 (5)	08:01 (3)	06:46 (4)
Station 306 (Palgrave)	08:33 (4)	12:44 (3)	12:33 (2)
Station 307 (Valleywood)	05:51 (4)	09:00 (3)	08:59 (1)
Station 308 (Mono Mills)	06:48 (4)	12:08 (2)	22:14 (5)
Station 309 (Caledon Village)	08:07 (4)	9:43 (2)	11:01 (3)

Turnout Time Peer Comparison

A turnout time comparison to a sample group of six municipalities within Ontario was completed. This comparison looked at six municipalities where Dillon has conducted similar analysis of departments. These departments utilize volunteer firefighters and deploy a minimum of four volunteer firefighters on the first responding apparatus.[33]

[33] The comparison municipalities were: Wilmot Township, Town of Innisfil, Town of New Tecumseth, Township of Uxbridge, Essa Township, and Town of Bradford West Gwillimbury.

Table 33 represents a comparison of the average 80th percentile turnout times of the six municipalities with the C.F.E.S.' turnout time for deploying the first four firefighters.

The C.F.E.S.'s 80th percentile turnout time, shown in the table, represents the turnout time of the fourth firefighter, regardless of whether the fourth firefighter was on the first truck or the second truck.

Table 33: Comparison Turnout Times

Six Comparison Municipalities		Caledon		+ or – Percentage Difference
Deployment	Turnout Time (average of 80th percentile)	Deployment	Turnout Time (80th percentile)	
Minimum 4 Firefighters (1st Apparatus)	6 minutes 30 seconds	4 Firefighters	6 minutes 48 seconds	+ 4.0%

This analysis highlights the higher turnout times for the volunteer firefighters in Caledon in comparison to a group of six other municipalities utilizing volunteer firefighters. There can be many factors contributing to longer turnout times of volunteer firefighters. These include the location of volunteer firefighters in relation to the fire station including either home or work, the availability of volunteers during the business day or on evenings and weekend, culture within the department, weather conditions, and the total number of volunteer firefighters assigned to a station.

Further analyses and recommendations regarding strategies to improve the turnout time of volunteer firefighters are contained within **Section 8.8** of this F.M.P.

8.6 Assessment of Existing Fire Suppression Capabilities

The following sections detail the assessment of response coverage within the Town of Caledon. Various modelling scenarios were developed to assess the fire and emergency services' response coverage for existing conditions as well as for the projected future conditions. The analysis was carried out using Esri's Network Analyst, a Geographical Information System (G.I.S.) tool developed specifically for the purpose of assessing networks, such as roads.

8.6.1 Fire Suppression 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.

A Geographic Information System (G.I.S.) program was used to assess the fire department's response coverage. Digital copies of G.I.S. layers including the existing road network were provided by the Town. Relevant base road network information, such as road length and speed, was extracted from the G.I.S. data. The historic call locations for all call types occurring between 2014 and 2019 were then added to the network and coded based on travel time to reach the call. An iterative process was used to adjust the speeds throughout the road network and calibrate the model to accurately reflect historic travel times of first responding units for all emergency calls. A calibration table, as shown in **Table 34**, represents the modelled speed by posted speed limit that was used in the G.I.S. model.

Table 34: Model Calibration

Road Class	Modelled Speed (km/h)
Provincial Highway	65-100
Regional Road	60-65
County Road	50
Local Road Major	45-50
Local Road Minor	20-25
Private Road	20-25
Laneway	**20**

The model scenarios were prepared to represent two different time horizons:

- Existing conditions 2020
- Future conditions 2031 planning horizon

As discussed in **Section 8.13,** the N.F.P.A. 1720 Rural and Suburban Demand Zone performance measures used for the response assessment were applied to all scenarios.

These performance benchmarks are consistent with industry best practices. The response time performance benchmarks applied within this F.M.P. are summarized in **Table 35.**

Table 35: Response Time Performance Benchmarks

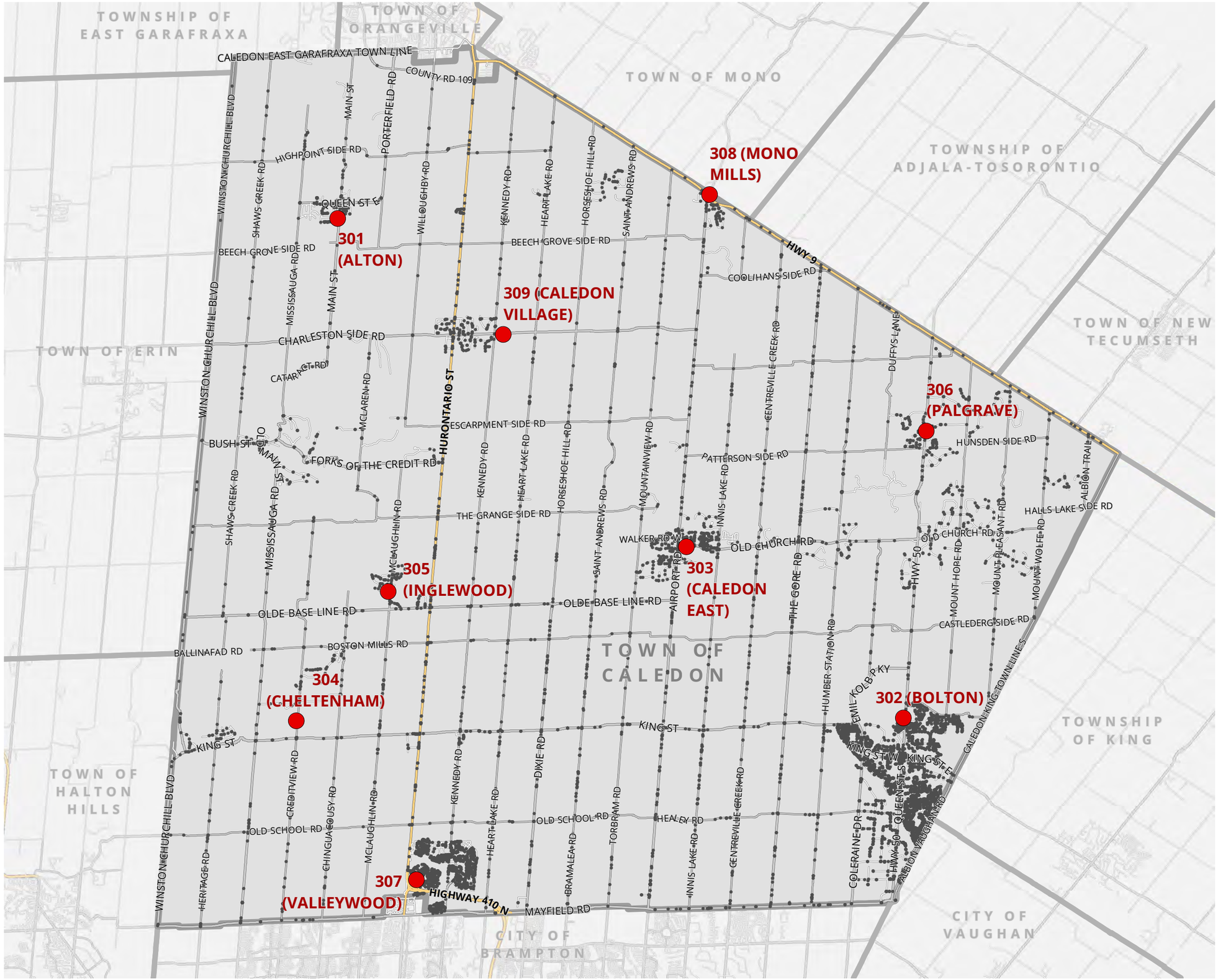
Response Time Performance Benchmark	Area Applied	Description
N.F.P.A. 1720 Rural Demand Zone	The Entire Municipality	Striving to achieve a fire suppression deployment benchmark including a minimum of six firefighters responding within a 14 minute response time (turnout time + travel time) to 80% of the fire related incidents within the entire Municipality.
N.F.P.A. 1720 Suburban Demand Zone	Mayfield West Rural Service Centre Bolton Rural Service Centre	Striving to achieve a fire suppression deployment benchmark including a minimum of ten firefighters responding within a 10 minute response time (turnout time + travel time) to 80% of the fire related incidents within the defined Bolton Rural Service Centre and the Mayfield West Rural Service Centre.

The historic calls (emergency calls from January 1st, 2014 to December 31st, 2019) are then added to the model (see **Figure 16**). The statistics table included on each response coverage figure includes the percent of existing calls that the model predicts would be reached within the initial response time.

8.6.2 Fire Suppression Service Areas

Service areas within the model represent the geographic area included within the response scenarios. Essentially, the service areas represent the geography that requires fire suppression response from the department under each of the time horizons: existing conditions and the 2031 planning horizon. The existing rural service area includes the entire municipality. In future scenarios, the rural demand zone service area does not change.

The existing suburban demand zone service areas include the Mayfield West Rural Service Centre and the Bolton Rural Service Centre. The future suburban service boundary includes the existing coverage area in Bolton plus future development areas (by 2031) in both Bolton and Mayfield West, as identified by Town staff. The existing and future suburban service area modelled is shown in **Figure 17.**



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

Historic Call Locations
FIGURE 16

- Fire Station
- Historic Call (2014 - 2019)

1:125,000

0 0.5 1 2 km

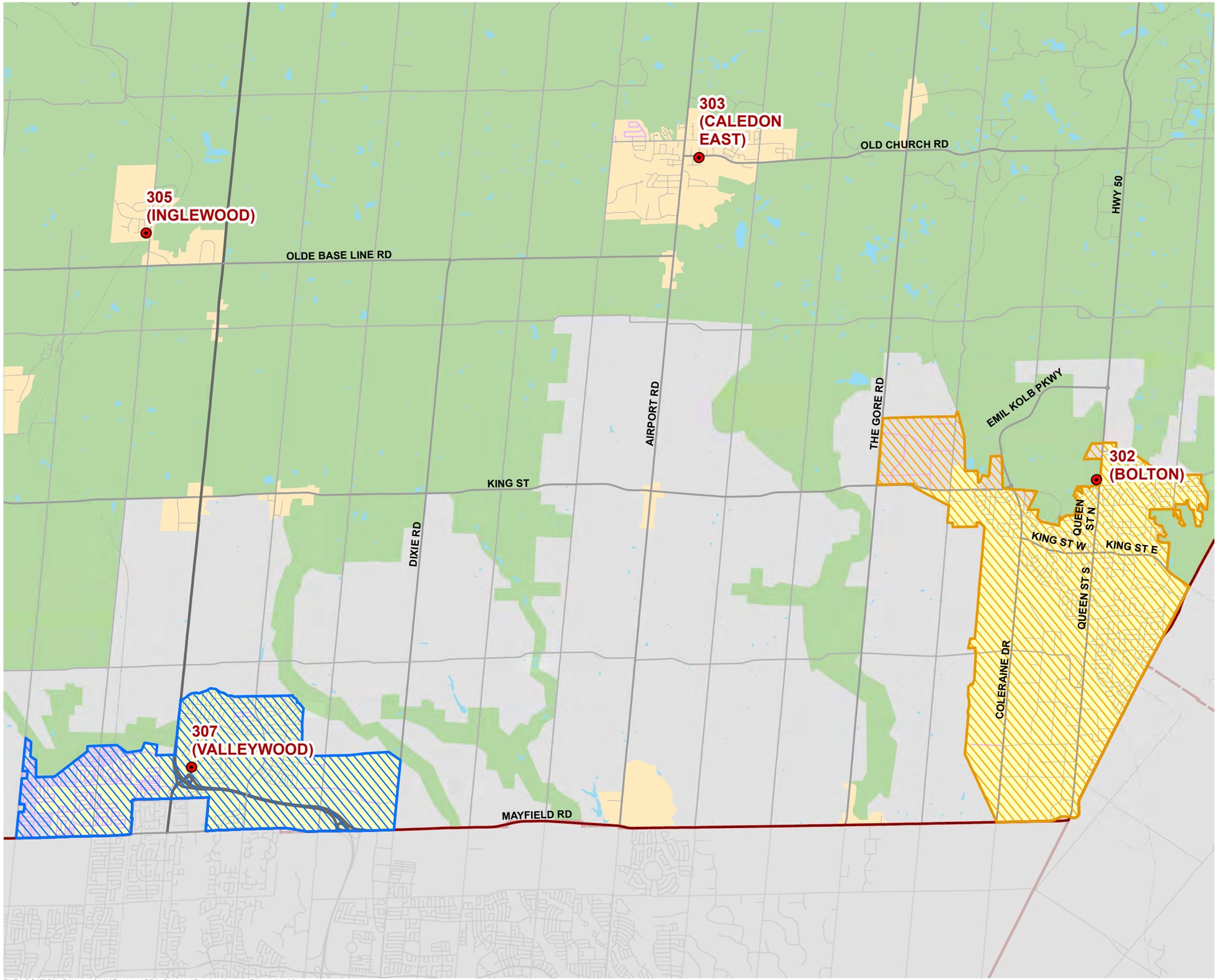
MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\Historic Call Locations.mxd



TOWN OF CALEDON

TOWN OF CALEDON
Fire Master Plan

Existing and Future Service Areas
Figure 17

- Fire Station
- Rail
- Caledon Muncipal Boundary
- Existing Rural Service Centre
- Mayfield West Rural Service Centre - Future Service Area
- Bolton Rural Service Centre - Future Service Area
- Settlement Area
- Greenbelt Plan Boundary

Roads

- Provincial Highway
- Regional Road
- Local Road - Major
- Local Road - Minor
- Future Road

0 1 2 4 km

SCALE 1:67,500

MAP DRAWING INFORMATION:
DATA PROVIDED BY THE TOWN OF CALEDON; THE REGIONAL MUNICIPALITRY OF PEEL; AND THE MNRF

MAP CREATED BY: JH
MAP CHECKED BY: AN
MAP PROJECTION: NAD 1983 UTM Zone 17N

DILLON CONSULTING

PROJECT: 20-0879
STATUS: DRAFT
DATE: 2020-10-30

FILE LOCATION: C:\Users\31JH\Desktop\CRA_Caledon\Service Areas - Expansion Map.mxd

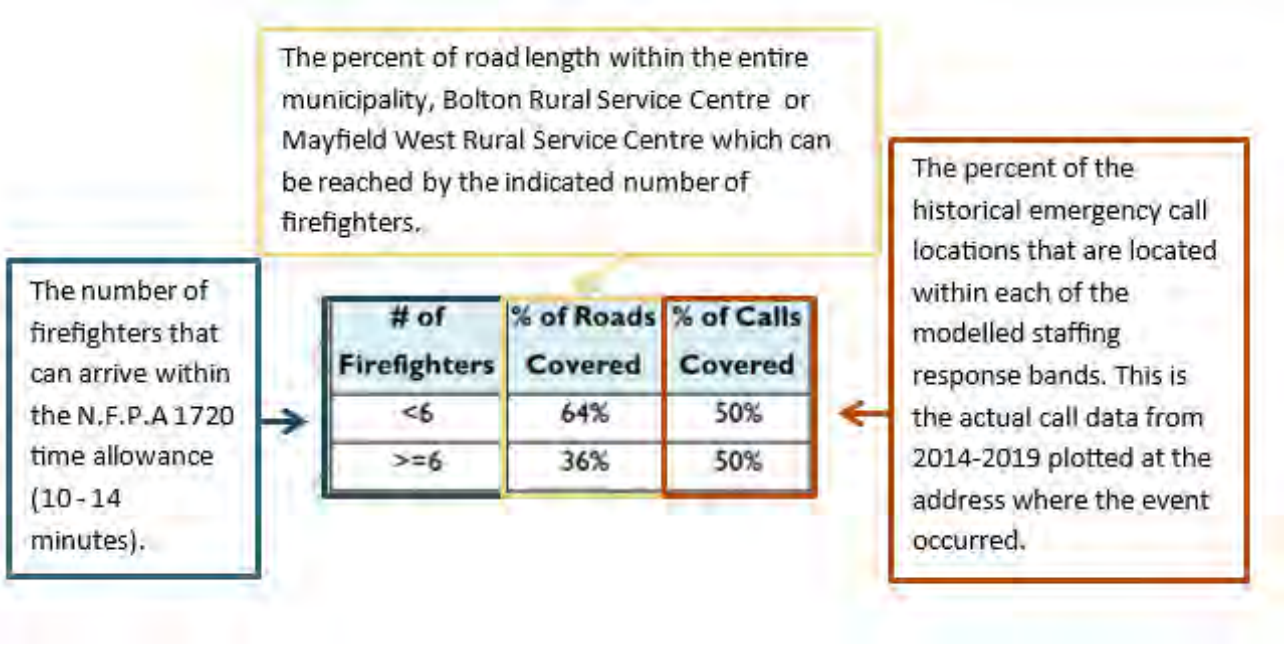
8.6.3 Fire Suppression Coverage Assessment Scenarios

The following sections document the results of each response scenario. In undertaking the analysis, a number of station models, apparatus deployment variations and staffing variation scenarios were evaluated. The most promising and practical of these options are documented in this report. The following variables, and combinations thereof, were tested:

- Improved turnout times
- Addition / relocation of fire stations

For ease of reference, the station staffing and apparatus assignments modeled are summarized in a tabular format included within each model figure. **Figure 18** describes the statistics table that is included on each initial response figure.

Figure 18: Model Statistics Table Description



This statistic table can be interpreted as the following:

- A minimum of six firefighters within 14 minutes can reach 36% of the Town's roads
- Historically, 50% of the calls have occurred within the area which can be reached by six firefighters within 14 minutes or less of travel time
- Less than six firefighters is the remaining % of roads / calls which are not covered by six firefighters within 14 minutes or less

8.6.4 Existing Fire Suppression Capabilities – N.F.P.A. 1720 Rural Demand Zone

This section illustrates the G.I.S. modelled analysis of the historical C.F.E.S. fire suppression deployment capabilities in comparison to the applicable N.F.P.A. 1720 Rural Demand Zone performance benchmarks for the entire municipality. This includes deploying a minimum of six firefighters able to respond within a fourteen minute response time (turn-out time + travel time) to 80% of the fire related incidents. This analysis has considered the Towns historical fire related emergency calls during the period from January 1st, 2014 to December 31st, 2019. This analysis is presented in two corresponding time frames that collectively reflect 24 hour emergency response coverage. These time frames include Monday through Friday daytime (7 am to 6 pm) and all other times representing evenings and weekends.

8.6.4.1 Entire Municipality - N.F.P.A. Rural Demand Zone Performance Benchmark (Monday through Friday Daytime)

The existing fire suppression capabilities of the C.F.E.S. for the entire municipality were assessed in comparison to the N.F.P.A. 1720 Rural Area Demand Zone performance benchmark including a minimum of six firefighters able to respond within a fourteen minute response time (turn-out time + travel time) to 80% of the fire related incidents.

Table 36 indicates that from January 1st, 2014 to December 31st, 2019 the C.F.E.S. was able to deploy a minimum of six firefighters within a fourteen minute response time (turn-out time + travel time) Monday through Friday during the daytime (7am to 6pm) to 35.7% of the historical fire related incidents and coverage of 39.4% of the Towns existing road network.

Table 36: Entire Municipality - N.F.P.A. 1720 Rural Demand Zone Performance Benchmark (Monday through Friday Daytime)

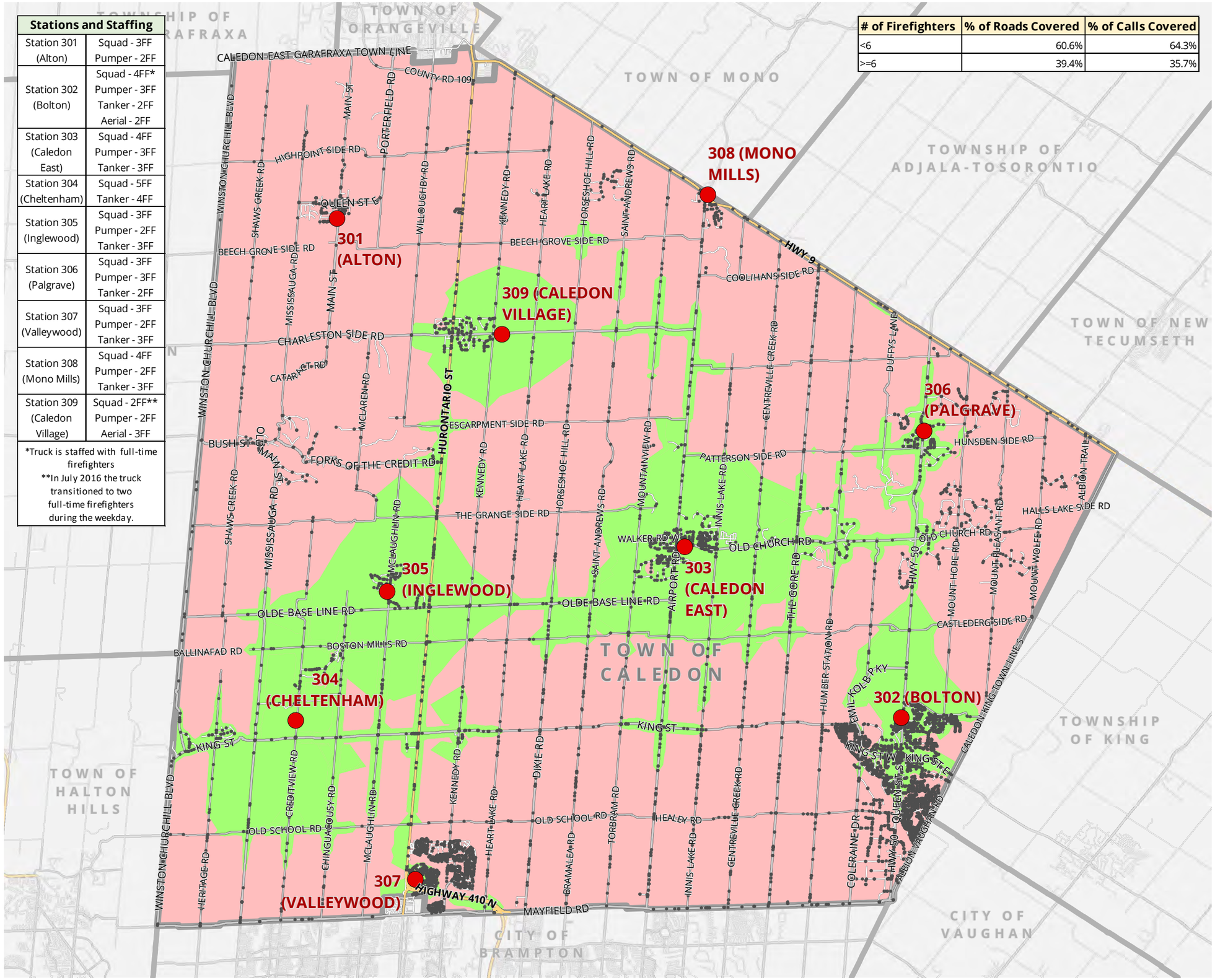
Scenario	N.F.P.A. 1720 Rural Demand Zone Standard (six firefighters arriving within a fourteen minute response time)	
	% of Roads Covered	% of Calls Covered
Existing Conditions	39.4%	35.7%

Figure 19 illustrates the geographic areas highlighted in green where six firefighters were able to assemble on scene within a fourteen minute response time (turnout time +travel time). This analysis highlights the variance of fire suppression coverage from the Towns existing fire stations that can be directly attributed to either the number of volunteer firefighters available to respond during this time period, or the respective turn-out time of the volunteer firefighters responding to the fire station they are assigned. During this time period Station 304 (Cheltenham), Station 303 (Caledon East) Station 305 (Inglewood) and Station 309 (Caledon Village) are able to provide the largest areas of geographical emergency response coverage.

Stations and Staffing	
Station 301 (Alton)	Squad - 3FF Pumper - 2FF
Station 302 (Bolton)	Squad - 4FF* Pumper - 3FF Tanker - 2FF Aerial - 2FF
Station 303 (Caledon East)	Squad - 4FF Pumper - 3FF Tanker - 3FF
Station 304 (Cheltenham)	Squad - 5FF Tanker - 4FF
Station 305 (Inglewood)	Squad - 3FF Pumper - 2FF Tanker - 3FF
Station 306 (Palgrave)	Squad - 3FF Pumper - 3FF Tanker - 2FF
Station 307 (Valleywood)	Squad - 3FF Pumper - 2FF Tanker - 3FF
Station 308 (Mono Mills)	Squad - 4FF Pumper - 2FF Tanker - 3FF
Station 309 (Caledon Village)	Squad - 2FF** Pumper - 2FF Aerial - 3FF

*Truck is staffed with full-time firefighters
**In July 2016 the truck transitioned to two full-time firefighters during the weekday.

# of Firefighters	% of Roads Covered	% of Calls Covered
<6	60.6%	64.3%
>=6	39.4%	35.7%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Rural Demand Zone Standard
(6 Firefighters in 14 Minutes, 80% of the Time)
Existing Conditions
Entire Municipality
Day Staffing (Monday to Friday 7am - 6pm)
FIGURE 19

- Fire Station
- Historic Call (2014 - 2019)

Number of Staff On-Scene in a 14 minute Response Time (Turnout Time + Travel Time)

- 6 or More Firefighters
- Less Than 6 Firefighters

1:125,000
0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-02

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Rural Demand Zone, Existing Conditions, Day Staffing.mxd

8.6.4.2 Entire Municipality - N.F.P.A. Rural Demand Zone Performance Benchmark (All Other Times)

Table 37 indicates that from January 1st, 2014 to December 31st, 2019 the C.F.E.S. was able to deploy a minimum of six firefighters within a fourteen minute response time (turn-out time + travel time) at all other times including evenings and weekends to 34.4% of the historical fire related incidents and coverage of 42.3% of the Town's existing road network.

Table 37: Entire Municipality - N.F.P.A. 1720 Rural Demand Zone Performance Benchmark (All Other Times)

Scenario	N.F.P.A. 1720 Rural Demand Zone Standard (six firefighters arriving within a fourteen minute response time)	
	% of Roads Covered	% of Calls Covered
Existing Conditions	42.3%	34.4%

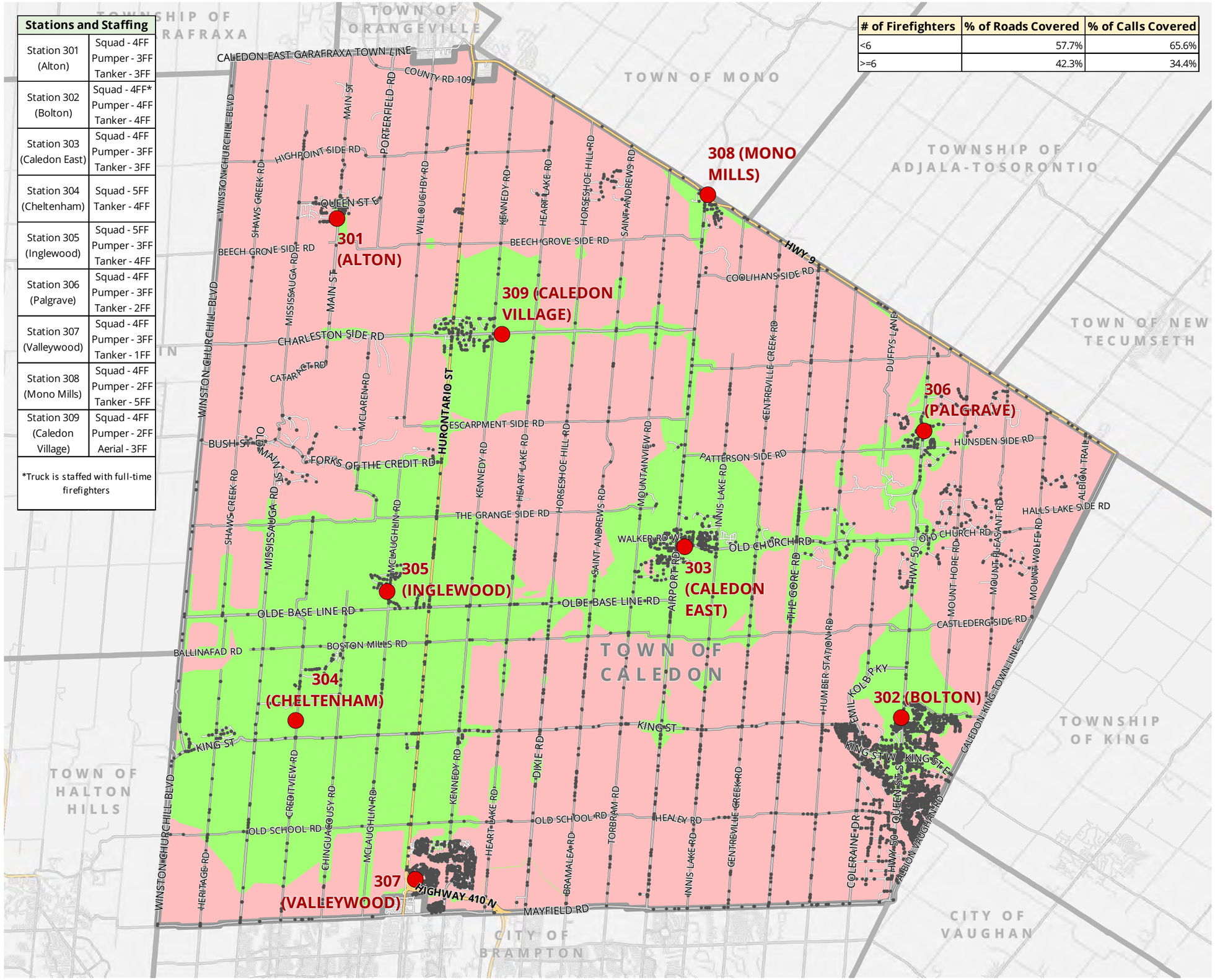
Figure 20 also illustrates the geographic areas highlighted in green where six firefighters were able to assemble on scene within a fourteen minute response time (turnout time +travel time). In comparison to the emergency response coverage during the daytime Monday through Friday (7am to 6pm) there is a slightly lower percentage of coverage to the historical fire related call locations of 1.3% (35.7% vs 34.4%) and a slightly higher percentage of road network coverage of 2.9% (42.3% vs 39.4%).

This analysis further highlights the variance in the existing fire suppression coverage from the Towns existing fire stations that can be directly attributed to the number of volunteer firefighters available to respond on any given day of the week, or time of day. During this time period Station 304 (Cheltenham), Station 303 (Caledon East) Station 305 (Inglewood) and Station 309 (Caledon Village) continue to provide the largest areas of geographical emergency response coverage, however there are also improvements over the weekdays in the areas surrounding Station 307 (Valleywood).

Stations and Staffing	
Station 301 (Alton)	Squad - 4FF Pumper - 3FF Tanker - 3FF
Station 302 (Bolton)	Squad - 4FF* Pumper - 4FF Tanker - 4FF
Station 303 (Caledon East)	Squad - 4FF Pumper - 3FF Tanker - 3FF
Station 304 (Cheltenham)	Squad - 5FF Tanker - 4FF
Station 305 (Inglewood)	Squad - 5FF Pumper - 3FF Tanker - 4FF
Station 306 (Palgrave)	Squad - 4FF Pumper - 3FF Tanker - 2FF
Station 307 (Valleywood)	Squad - 4FF Pumper - 3FF Tanker - 1FF
Station 308 (Mono Mills)	Squad - 4FF Pumper - 2FF Tanker - 5FF
Station 309 (Caledon Village)	Squad - 4FF Pumper - 2FF Aerial - 3FF

*Truck is staffed with full-time firefighters

# of Firefighters	% of Roads Covered	% of Calls Covered
<6	57.7%	65.6%
>=6	42.3%	34.4%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Rural Demand Zone Standard
(6 Firefighters in 14 Minutes, 80% of the Time)
Existing Conditions
Entire Municipality
All Other Times Staffing
FIGURE 20

- Fire Station
- Historic Call (2014 - 2019)

Number of Staff On-Scene in a 14 minute Response Time (Turnout Time + Travel Time)

- 6 or More Firefighters
- Less Than 6 Firefighters

1:125,000
0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-02

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Rural Demand Zone, Existing Conditions, All Other Times Staffing.mxd

8.6.5 Existing Fire Suppression Capabilities – N.F.P.A. 1720 Suburban Demand Zone

This section illustrates the G.I.S. modelled analysis of the historical C.F.E.S. fire suppression deployment capabilities in comparison to the applicable N.F.P.A. 1720 Suburban Demand Zone performance benchmarks for the defined Mayfield West Rural Service Centre and Bolton Rural Service Centre. This includes deploying a minimum of ten firefighters able to respond within a ten minute response time (turn-out time + travel time) to 80% of the fire related incidents. This analysis has also considered the Towns historical fire related emergency calls during the period from January 1st, 2014 to December 31st, 2019. This analysis is also presented in two corresponding time frames that collectively reflect 24 hour emergency response coverage. These time frames include Monday through Friday daytime (7 am to 6 pm) and all other times representing evenings and weekends.

8.6.5.1 Mayfield West Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Within the defined Mayfield West Rural Service Centre the existing fire suppression capabilities of the C.F.E.S. were assessed in comparison to the N.F.P.A. 1720 Suburban Area Demand Zone. This includes deploying a minimum of ten firefighters able to respond within a ten minute response time (turn-out time + travel time) to 80% of the fire related incidents. This area is currently serviced primarily by volunteer firefighters responding from Station 307 (Valleywood). As a result, the turnout-time of the volunteer firefighters and the total number of volunteer firefighters who are able to respond at any given time have a significant impact on the department's current ability to assemble minimum of ten firefighters on scene within a ten minute response time (turn-out time + travel time).

Our analysis confirms that at this time the C.F.E.S. is not able to assemble the applicable ten firefighters on scene within a ten minute response time (turn-out time + travel time) to any of the areas included within the defined Mayfield West Rural Service Centre. However, the analysis presented in **Table 38** does indicate that Monday through Friday daytime (7am to 6pm) the C.F.E.S. has historically been able to deploy four volunteer firefighters to 32.3% of the historical fire related incidents, and 36.6% of the existing road network.

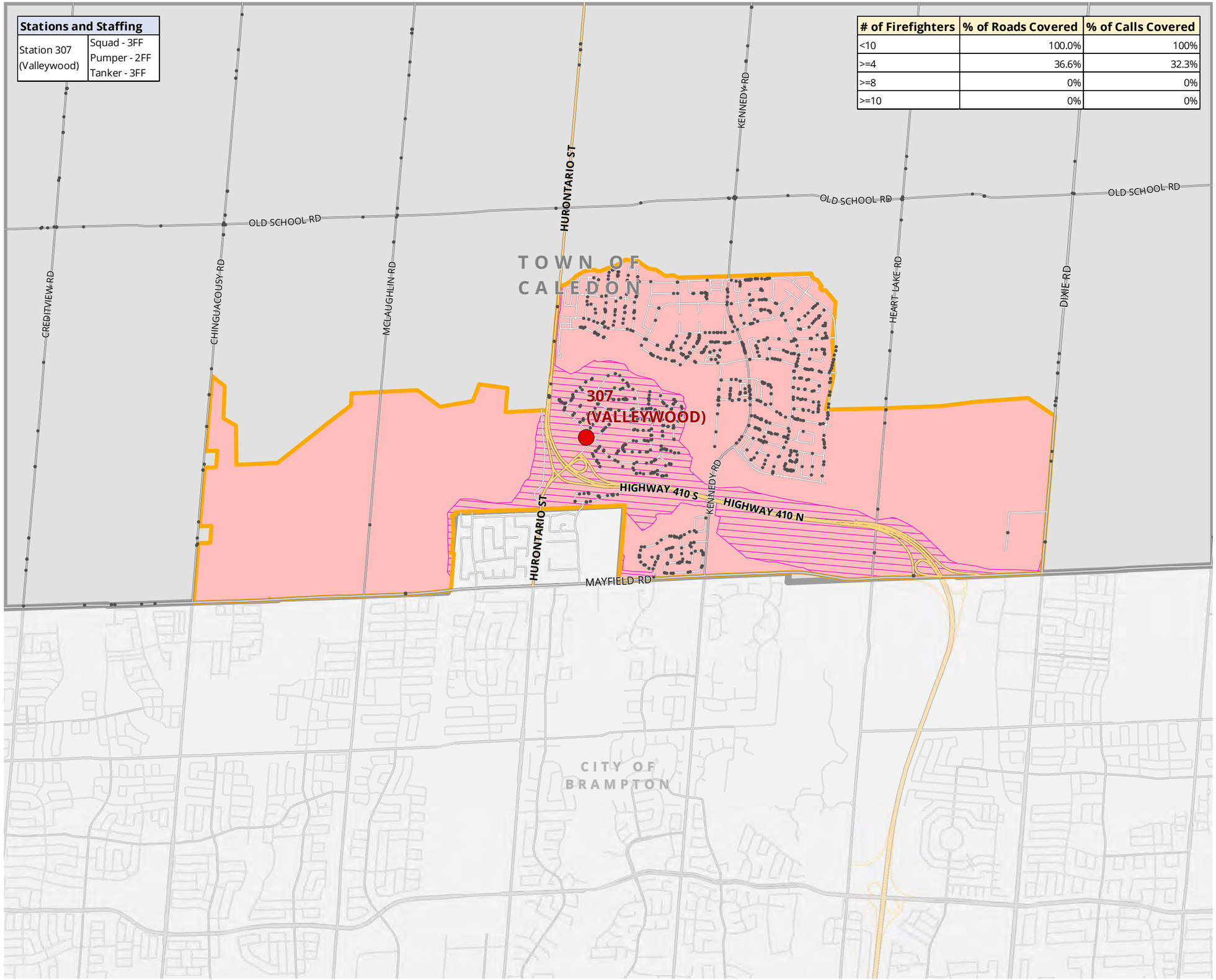
Table 38: Mayfield West Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Existing Conditions (10 FF in 10 Min.)	0%	0%
Existing Conditions (8 FF in 10 Min.)	0%	0%
Existing Conditions (4 FF in 10 Min.)	36.6%	32.3%

Figure 21 illustrates the G.I.S. modelled analysis of the historical C.F.E.S. fire suppression deployment capabilities in comparison to the applicable N.F.P.A. 1720 Suburban Demand Zone performance benchmarks for the defined Mayfield West Rural Service Centre. This model illustrates the areas within the Mayfield West Rural Service Centre where the C.F.E.S. is currently able to assemble a portion of the targeted performance deployment benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) Monday through Friday daytime (7am to 6pm).

Stations and Staffing	
Station 307 (Valleywood)	Squad - 3FF Pumper - 2FF Tanker - 3FF

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	100.0%	100%
>=4	36.6%	32.3%
>=8	0%	0%
>=10	0%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard (10 Firefighters in 10 Minutes, 80% of the Time)
Existing Conditions
Mayfield West
Day Staffing (Monday to Friday 7am - 6pm)
FIGURE 21

- Fire Station
- Historic Call (2014 - 2019)
- Mayfield West Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time +Travel Time)

- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

1:30,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Suburban Demand Zone, Existing Conditions, Mayfield West Day Staffing.mxd

8.6.5.2 Mayfield West Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (All Other Times)

The analysis within this section presents the C.F.E.S. existing fire suppression capabilities within the defined Mayfield West Rural Service Centre at all other times including evenings and weekends. This analysis further confirms that based on the current fire suppression deployment model for this area that relies primarily on volunteer firefighters the C.F.E.S. is currently unable to attain the applicable N.F.P.A. performance benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time).

Table 39 does indicate that at all other times including evenings and weekends the C.F.E.S. has historically been able to deploy four volunteer firefighters to 33.7% of the historical fire related incidents, and 41.5% of the existing road network, and eight volunteer firefighters to 5.0% of the historical fire related incidents, and 6.8% of the existing road network in this defined area.

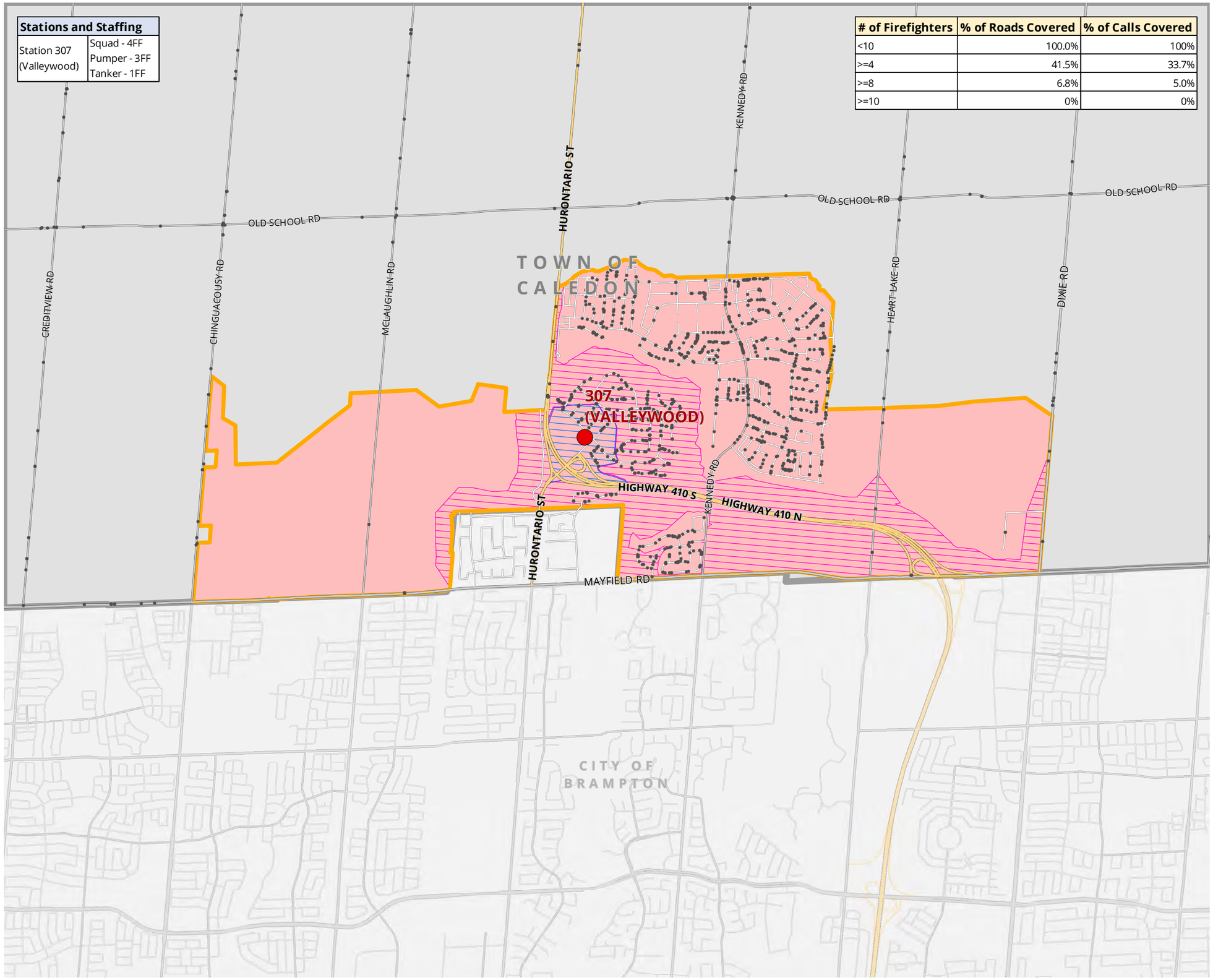
Table 39: Mayfield West Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (All of the Time)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Existing Conditions (10 FF in 10 Min.)	0%	0%
Existing Conditions (8 FF in 10 Min.)	6.8%	5.0%
Existing Conditions (4 FF in 10 Min.)	41.5%	33.7%

Figure 22 illustrates the areas within the Mayfield West Rural Service Centre where the C.F.E.S. is currently able to assemble a portion of the targeted performance deployment benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) at all other times including evenings and weekends.

Stations and Staffing	
Station 307 (Valleywood)	Squad - 4FF Pumper - 3FF Tanker - 1FF

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	100.0%	100%
>=4	41.5%	33.7%
>=8	6.8%	5.0%
>=10	0%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard (10 Firefighters in 10 Minutes, 80% of the Time)
Existing Conditions
Mayfield West
All Other Times Staffing
FIGURE 22

- Fire Station
- Historic Call (2014 - 2019)
- Mayfield West Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time +Travel Time)

- 8 or More Firefighters
- 4 or More Firefighters
- Less Than 10 Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

1:30,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Suburban Demand Zone, Existing Conditions, Mayfield West All Other Times Staffing.mxd

8.6.5.3 Bolton Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Within the defined Bolton Rural Service Centre the existing fire suppression capabilities of the C.F.E.S. were also assessed in comparison to the N.F.P.A. 1720 Suburban Area Demand Zone. This includes deploying a minimum of ten firefighters able to respond within a ten minute response time (turn-out time + travel time) to 80% of the fire related incidents. This area is currently serviced by four full-time firefighters responding from Station 302 (Bolton) who are on duty 24 hours a day and 365 days of the year. Station 302 (Bolton) also has a complement of volunteer firefighters that have varying response capabilities depending on the time of day. As a result, the turnout-time of the volunteer firefighters and the total number of volunteer firefighters who are able to respond at any given time have a significant impact on the department's current ability to assemble minimum of ten firefighters on scene within a ten minute response time (turn-out time + travel time) within the defined Bolton Rural Service Centre.

Our analysis confirms that at this time the C.F.E.S. is not able to assemble the applicable ten firefighters on scene within a ten minute response time (turn-out time + travel time) to any of the areas included within the defined Bolton Rural Service Centre. However, the analysis presented in **Table 40** does indicate that Monday through Friday daytime (7am to 6pm) the C.F.E.S. has historically been able to deploy four full-time firefighters to 96.0% of the historical fire related incidents, and 97.4% of the existing road network.

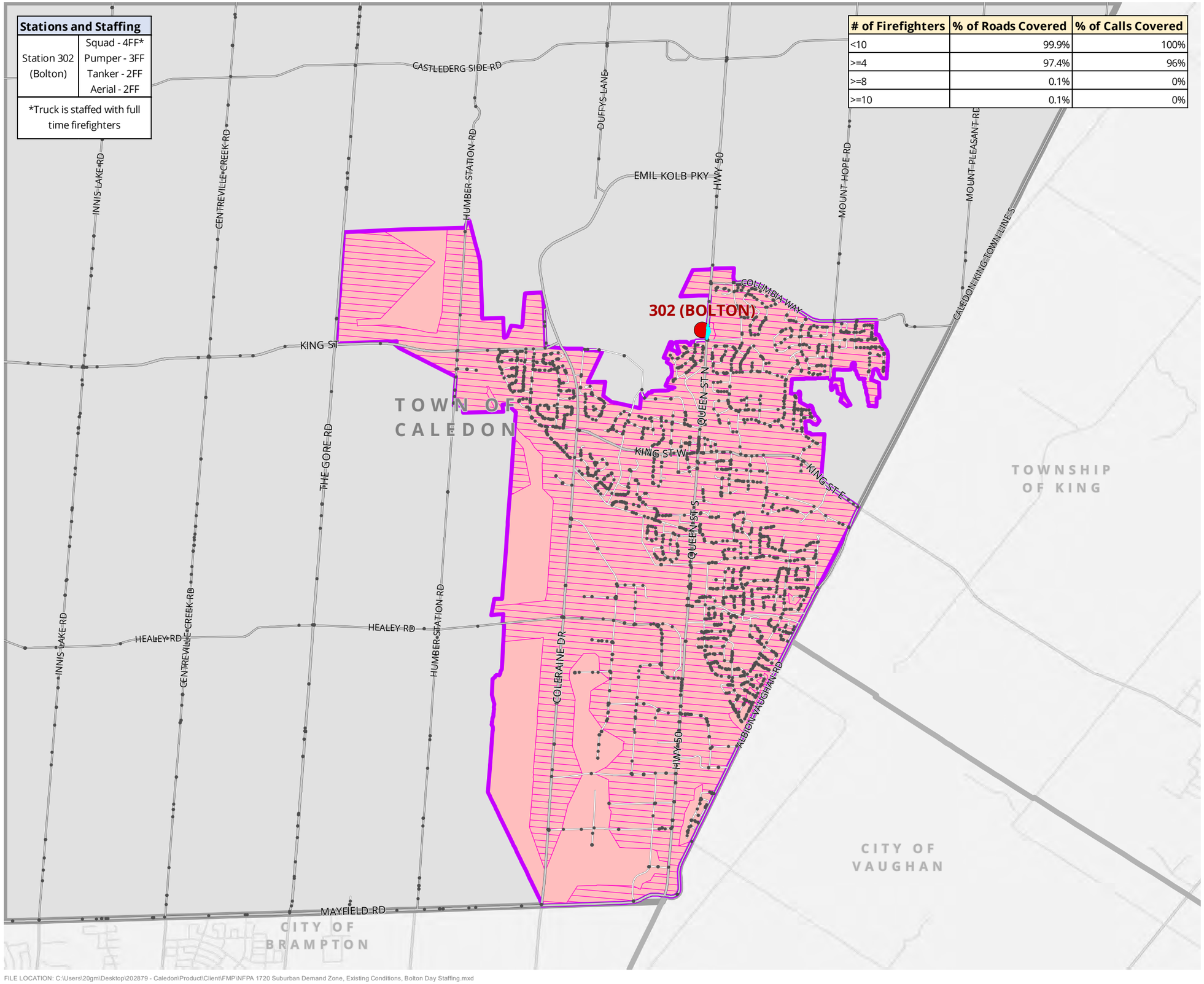
Table 40: Bolton Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Existing Conditions (10 FF in 10 Min.)	0%	0%
Existing Conditions (8 FF in 10 Min.)	0%	0%
Existing Conditions (4 FF in 10 Min.)	97.4%	96.0%

Figure 23 illustrates the G.I.S. modelled analysis of the historical C.F.E.S. fire suppression deployment capabilities in comparison to the applicable N.F.P.A. 1720 Suburban Demand Zone performance benchmarks for the defined Bolton Rural Service Centre. This model illustrates the areas within the Bolton Rural Service Centre where the C.F.E.S. is currently able to assemble a portion of the targeted performance deployment benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) Monday through Friday daytime (7am to 6pm).

Stations and Staffing	
Station 302 (Bolton)	Squad - 4FF* Pumper - 3FF Tanker - 2FF Aerial - 2FF
*Truck is staffed with full time firefighters	

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	99.9%	100%
>=4	97.4%	96%
>=8	0.1%	0%
>=10	0.1%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard
(10 Firefighters in 10 Minutes, 80% of the Time)
Existing Conditions
Bolton
Day Staffing (Monday to Friday 7am - 6pm)
FIGURE 23

- Fire Station
- Historic Call (2014 - 2019)
- Bolton Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time + Travel Time)

- 10 or More Firefighters
- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

1:40,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Suburban Demand Zone, Existing Conditions, Bolton Day Staffing.mxd

8.6.5.4 Bolton Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (All Other Times)

The analysis within this section presents the C.F.E.S. existing fire suppression capabilities within the defined Bolton Rural Service Centre at all other times including evenings and weekends. This analysis also confirms that the C.F.E.S. is currently unable to attain the applicable N.F.P.A. performance benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) to any of the areas included within the defined Bolton Rural Service Centre.

Table 41 does indicate that at all other times including evenings and weekends the C.F.E.S. has historically been able to deploy four full-time firefighters to 96.0% of the historical fire related incidents, and 94.3% of the existing road network.

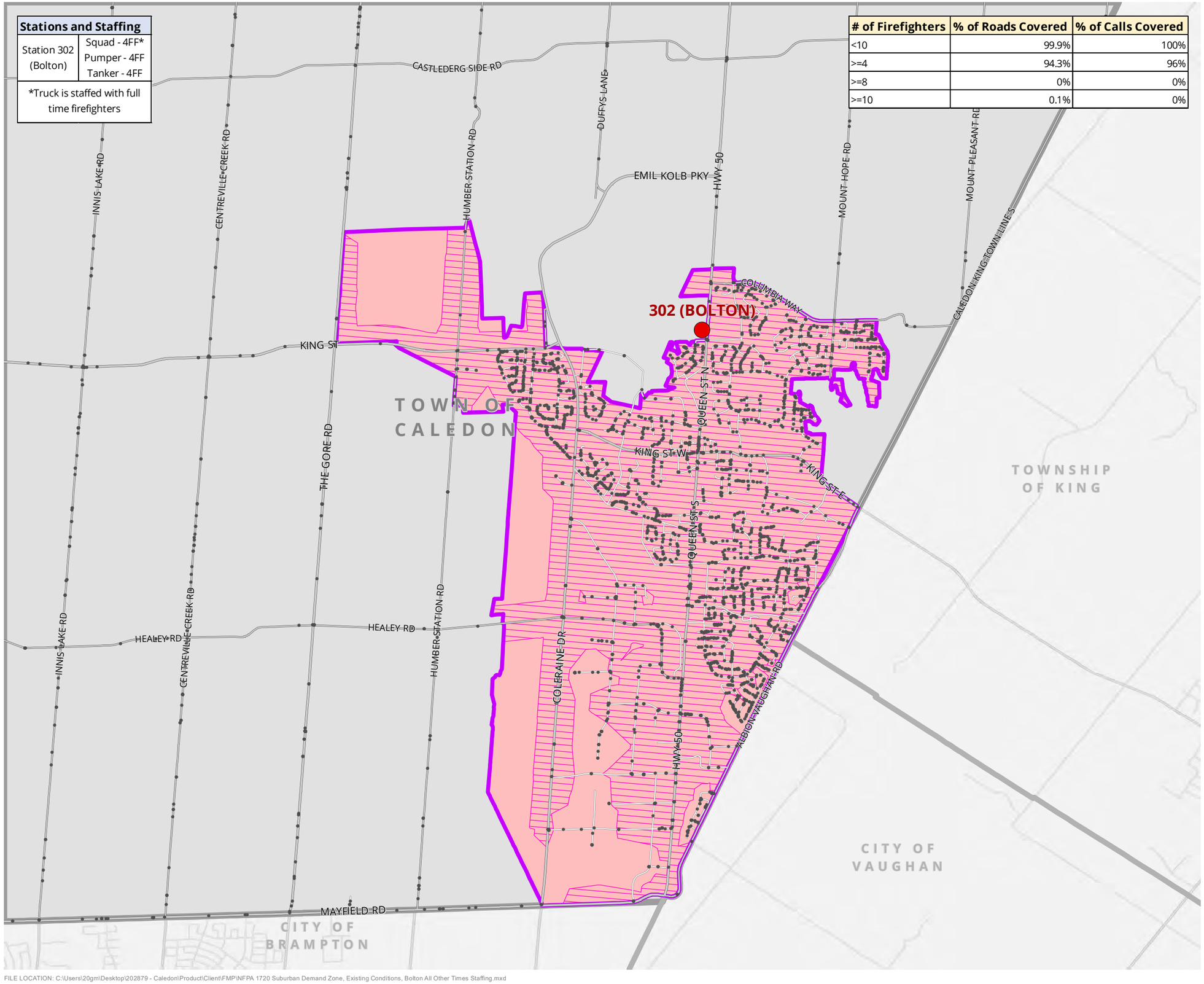
Table 41: Bolton Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (All of the Time)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Existing Conditions (10 FF in 10 Min.)	0%	0%
Existing Conditions (8 FF in 10 Min.)	0%	0%
Existing Conditions (4 FF in 10 Min.)	94.3%	96.0%

Figure 24 illustrates the areas within the Bolton Rural Service Centre where the C.F.E.S. is currently able to assemble a portion of the targeted performance deployment benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) at all other times including evenings and weekends.

Stations and Staffing	
Station 302 (Bolton)	Squad - 4FF* Pumper - 4FF Tanker - 4FF
*Truck is staffed with full time firefighters	

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	99.9%	100%
>=4	94.3%	96%
>=8	0%	0%
>=10	0.1%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard
(10 Firefighters in 10 Minutes, 80% of the Time)
Existing Conditions
Bolton
All Other Times Staffing
FIGURE 24

- Fire Station
- Historic Call (2014 - 2019)
- Bolton Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time + Travel Time)

- 8 or More Firefighters
- 4 or More Firefighters
- Less Than 10 Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

1:40,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Suburban Demand Zone, Existing Conditions, Bolton All Other Times Staffing.mxd

8.6.6 Exiting Suppression Capabilities Summary

Our analysis of the existing fire suppression capabilities of the C.F.E.S. indicates that at this time the department is unable to attain the applicable fire suppression performance benchmarks contained within the N.F.P.A. 1720 Standard. In our experience municipalities across Canada are utilising the applicable N.F.P.A. fire suppression performance benchmarks as a 'gauge' in assessing their current fire suppression deployment capabilities. As there is no legislated standard in the Province of Ontario for the delivery of fire suppression services this strategy of utilising the applicable N.F.P.A. Standards as a 'gauge' in assessing a municipalities own 'needs and circumstances' is in our view an applicable municipal best practice.

The analysis within this F.M.P. presents options for the Town of Caledon to further enhance its current fire suppression deployment capabilities in response to the companion Community Risk Assessment.

8.7 Future Fire Suppression Capabilities – Community Growth

One of the most significant factors impacting the future delivery of fire protection, and specially fire suppression services in the Town of Caledon will be further community growth. The following sections provide an overview of the Towns historical growth and the future community growth assumptions that have been applied to the development of this F.M.P.

8.7.1 Town of Caledon Historical Community Growth

Table 42 displays the Town of Caledon's historic growth. From 1986 to 2016 the population of Caledon grew by 124.28%, approximately 2.73% per year on average (compounding). The population growth from 1996 to 2001 was significant, consistent with growth throughout the Greater Toronto Area. In the 25-year period from 1991 to 2016, the number of households within the Town of Caledon grew by 97.81%, which is approximately 2.77% per year on average (compounding).

Table 42: Historic Growth in Population and Households

Year	Caledon Population	% Change in Population	Caledon Households	% Change in Households
1986	29,651	-	-	-
1991	34,695	17.9%	10,745	-
1996	39,893	14.1%	12,550	16.8%
2001	50,595	26.8%	16,110	28.4%
2006	57,050	12.8%	18,210	13.0%
2011	59,460	4.2%	19,085	4.8%
2016	66,502	11.8%	21,255	11.4%

(Source: Statistics Canada 1991, 1996, 2001, 2006, 2011, and 2016 Census Profiles)

8.7.2 Future Community Growth Planning

The trend of population and household growth within the community is continuing. Located in the Region of Peel, the Town of Caledon is subject to the Province of Ontario's A Place to Grow: Growth Plan for the Greater Golden Horseshoe (Growth Plan). The Growth Plan complements the Greenbelt Plan; together they establish where and how municipalities in the Greater Golden Horseshoe (G.G.H.) can grow. The Region of Peel is responsible for working with the area municipalities to allocate the population and employment growth projections.

In the summer of 2020, the Province approved Growth Plan Amendment 1 which revised the population and employment projections and introduced a 2051 horizon year. Municipalities across the G.G.H. are working through how they will accommodate growth to 2041 and to 2051 through municipal comprehensive review processes. This process will ultimately include updates to the Town of Caledon Official Plan and the population and employment projections referenced therein.[34]

Since the location of growth beyond the 2031 horizon is still to be determined, the analysis conducted as part of this F.M.P. Update is based on ten-year horizon for residential and employment growth. As part of the implementation of this F.M.P.

[34] While the growth forecasts will be revised as part of the current municipal comprehensive review process, for reference, the in force and effect Town of Caledon Official Plan (April 2018 office consolidation) identifies that by the year 2031 the Town is expected to have a population of 108,000 and 46,000 jobs.

Update, it will be important to monitor how growth occurs and adjust implementation accordingly with consideration to the Community Risk Assessment.

8.7.3 Town of Caledon Assumed Future Community Growth

Through meetings and discussion with Town Planning staff, an updated assumed future growth scenario to 2031 was identified as shown in **Figure 25**. The major growth areas for Caledon are Bolton and Mayfield West. Mayfield West has three different geographies that may be referenced in regards to planning matters:

a. Mayfield West Phase 1 (east of Highway 10)

b. Mayfield West Phase 2 Stage 1 (west of Highway 10)

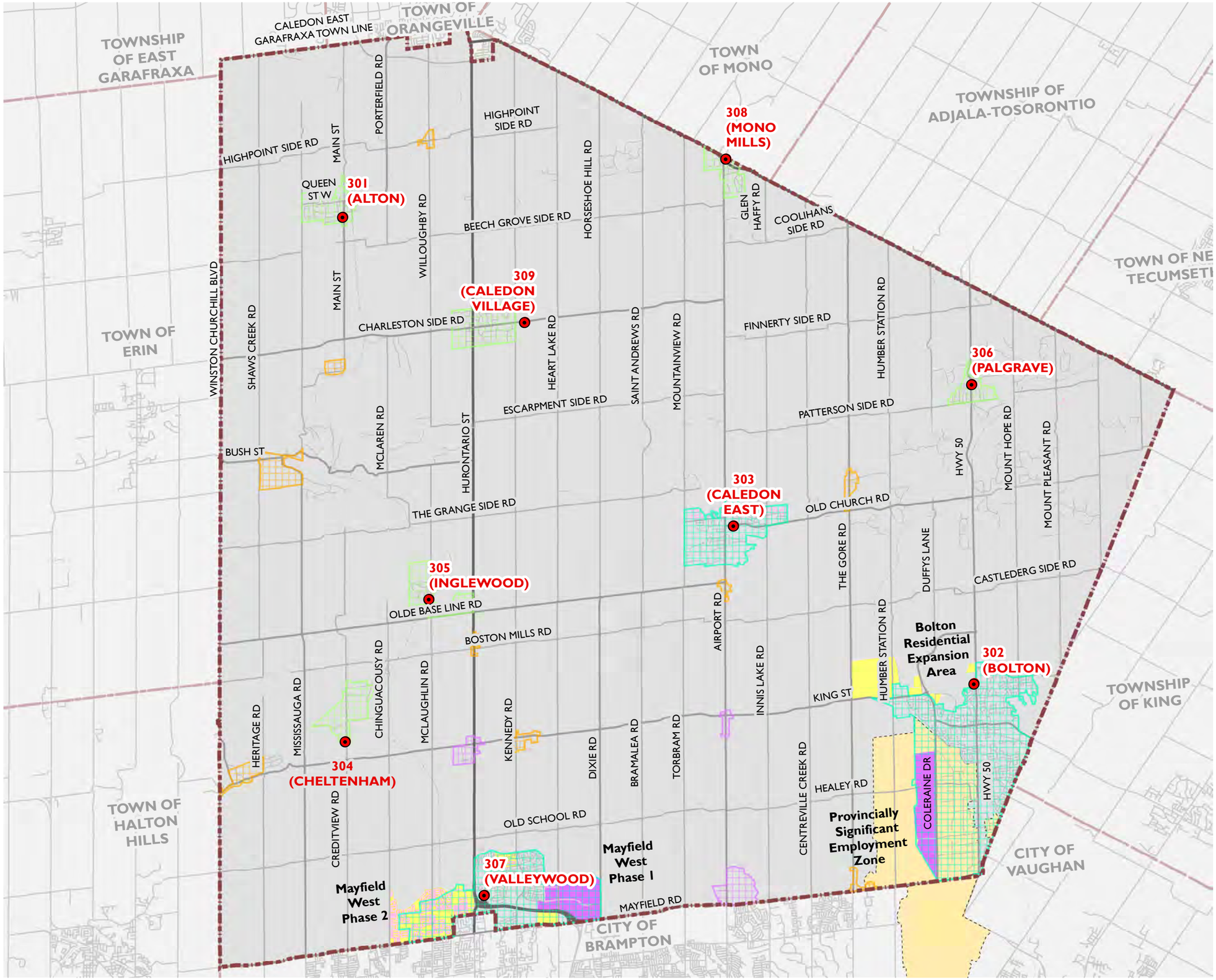
c. Mayfield West Phase 2 Stage 2 (also west of Highway 10 and adjacent to Chinguacousy Road)

The following summarizes the growth assumption changes and similarities since the 2018 F.M.P.:

- Bolton continues to be a major growth area. Employment growth is still planned for Coleraine West and will include Prestige Industrial and General Industrial employment uses. The Coleraine West Employment Area Land Use Plan (O.P. Schedule C-7) is shown in **Figure 26.**
- The location of future Bolton residential growth has changed from the south-west to the north-west. Once approved, this settlement area expansion will reflect a change in the Rural Service Centre boundary and therefore the expansion of this particular ‘demand zone’. This Bolton residential expansion will accommodate an additional 10,348 people.
- The Mayfield West growth area has had some of its land uses adjusted. Some of the lands in Mayfield West Phase 1 area will now accommodate employment growth as shown in **Figure 27** (O.P. Schedule B). These lands were identified as residential in the 2018 F.M.P.
- Mayfield West is experiencing development at a faster pace than originally assumed. Development in Mayfield West Phase 2 area is likely to occur before development in Bolton. The growth in this area is estimated to add an additional 18,272 people based on information provided by the Town (for Stage 1 and Stage

2). See **Figure 28** for the land uses in the Mayfield west Phase 2 Stage 1 area per O.P. Schedule B-2.

- The Mayfield West growth area has been expanded. In July 2020, the Province issued a Ministerial Zoning Order which adds the Mayfield West Phase 2 Stage 2 lands for residential uses (see **Figure 29**). Similar to Bolton, this expansion will result in a change in the geography of this particular 'demand zone'.
- Similar to the 2018. F.M.P., **Figure 26** does not reflect the greenfield growth that will occur in Palgrave Estate Residential Community, and Caledon East as the growth will be minor.
- Road network connectivity has a direct impact of emergency response performance. In consultation with the Town, within the Mayfield West area, it was identified that the future road network should continue to include the Abbotside Way connection to Dixie Road and the Dougall Avenue connection to Highway 10. However, the Kennedy Road Highway 410 interchange was confirmed as not likely to occur within the ten year horizon; this road improvement was not included in the emergency response model. In regards to the future road network within the Bolton growth area, the Town confirmed that transportation planning for the area has not been completed. In order to model emergency response coverage to this area, some road network connections were added by Dillon as directed by the Town. The Town should continue to monitor the timing of road network improvements including the resulting impact on emergency response performance.
- Intensification is still assumed to contribute to growth on a small scale for the Town. As noted in the Town's Official Plan (policy 4.2.1.1), there is limited potential for intensification within the existing built-up area defined by the Province, given that the municipality is mostly rural. To 2031, the minimum amount of residential development allocated within the built-up area within Caledon will be 1,500 units (Town O.P. policy 4.2.1.3.4). Intensification was not identified as a driving source of growth in the municipality in terms of modelling future emergency response since it does not change settlement area boundaries. However, it is important to consider as such growth can increase the demand for inspections, enforcement and public education, and could contribute to increased exposure and fire loss. The Town is currently updating its Intensification Strategy to plan for intensification to 2051.



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

Future Growth
Figure 25

- Fire Station
- Provincially Significant Employment Zone
- Municipal Boundary

Road Classification
- Provincial Highway
- Regional Road
- Local Road - Major
- Local Road - Minor
- Future Road

Greenfield Growth to 2031 by Type
- Employment
- Residential

Settlement Area Type
- Hamlet
- Industrial/Ccommercial Centre
- Rural Service Centre
- Village

The identified growth areas are based on information provided by the Town of Caledon including Map No. 244 from the Ontario Ministry of Municipal Affairs and Housing. The proposed future roads in Mayfield West were provided by the Town. The future road network for the Bolton growth area has not been determined. The proposed future roads in Bolton were added by Dillon for emergency response coverage modelling purposes only.

0 0.5 1 2 km

1:120,000

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

MAP CREATED BY: JH
MAP CHECKED BY: AN
MAP PROJECTION: NAD 1983 UTM Zone 17N

DILLON CONSULTING

PROJECT: 202879
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\31JH\Desktop\CRA_Caledon\Future Growth Sources.mxd

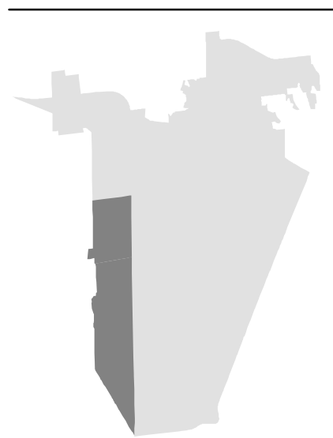
TOWN OF CALEDON

Schedule C-7

(A Subschedule to Schedule "C")

COLERAINE WEST EMPLOYMENT AREA LAND USE PLAN

- Prestige Industrial
- General Industrial
- Environmental Policy Area
- Secondary Plan Area
- O.Reg 210/13 (Minister's Zoning Order) Part of ROPA 28 (Approved by the OMB February 26th, 2016)
- Bolton Settlement
- Conceptual Road Network
- Regional Road
- Local Road
- Railway
- Gateway Feature



Base Data Source: Town of Caledon

0 50 100 200 300 400 500 m

HOLLAND DR
BROWNING CRT
PIERCEY RD
HEALEY RD
MARCONI CRT
WHEELER DR
SIMPSON RD
MCEWAN DR W
NIXON RD
GEORGE BOLTON PKY
SIMONA DR
PILLSWORTH RD
PARR BLVD
SIMPSON RD
COLERAINE DR
THE GORE RD
HUMBER STATION RD
GATEWAY FEATURE
TOWN OF CALEDON
MAYFIELD RD
CITY OF BRAMPTON

Figure 27: Mayfield West Land Use Plan (Schedule B)

SAVED: 2 April 2018

FILE: S:\POLICY SECTION\GIS\official_plan\mxd\09-april_2018

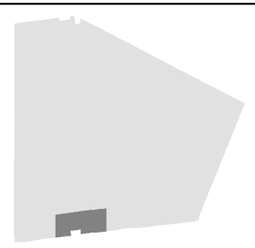
SAVED BY: bloverock

Schedule B

MAYFIELD WEST LAND USE PLAN

TOWN OF CALEDON

- Prime Agricultural Area
- Residential Area
- Residential Policy Area
- Environmental Policy Area
- Open Space Policy Area
- General Commercial
- Institutional
- Mixed High/Medium Density Residential
- Academic/Research Campus
- Prestige Industrial
- General Industrial
- Highway Right-of-Way
- Village Centre Area
- Settlement Boundary 2031
- Mayfield West Study Area
- Boundary of Greenbelt Plan Area
- Greenway Corridor
- Lot and Concession Lines
- Elementary School
- Gateway Feature
- Potential Future Interchange
- Conceptual Road Network
- Provincial Road
- Regional Road
- Local Road
- Railway



Base Data Source: Town of Caledon

0 0.5 1 2 3 4 5 km

CHINGUACOUSY RD
MCLAUGHLIN RD
HURONTARIO ST
KENNEDY RD
HEART LAKE RD
DIXIE RD
OLD SCHOOL RD
MAYFIELD RD
OBRY
Etobicoke Cr
CON 1 WHS
CON 2 WHS
CON 1 EHS
CON 2 EHS
CON 3 EHS
LOT 22
LOT 21
LOT 20
LOT 19
LOT 18
10
4
410
14
A
B
TOWN OF CALEDON
CITY OF BRAMPTON

For details of this area refer to Schedule B-2
"Mayfield West Phase 2 Secondary Plan Land Use Plan"

For details of this area refer to Schedule B-1
"Snell's Hollow Secondary Plan Area - Land Use Plan"

SAVED: 2 April 2018

FILE: S:\POLICY SECTION\GIS\official_plan\mxd\9-april_2018

SAVED BY: bloverock

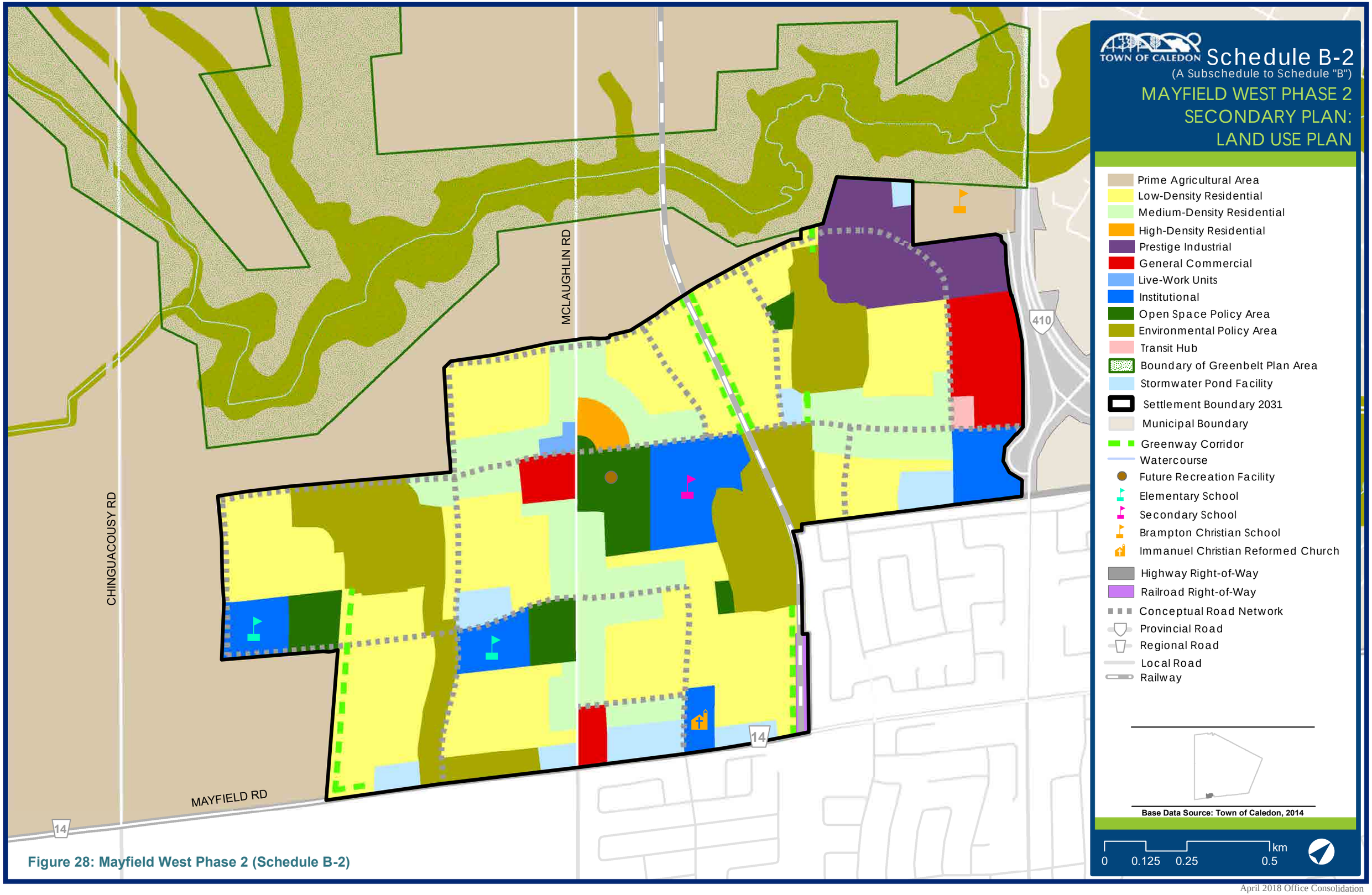


Figure 28: Mayfield West Phase 2 (Schedule B-2)

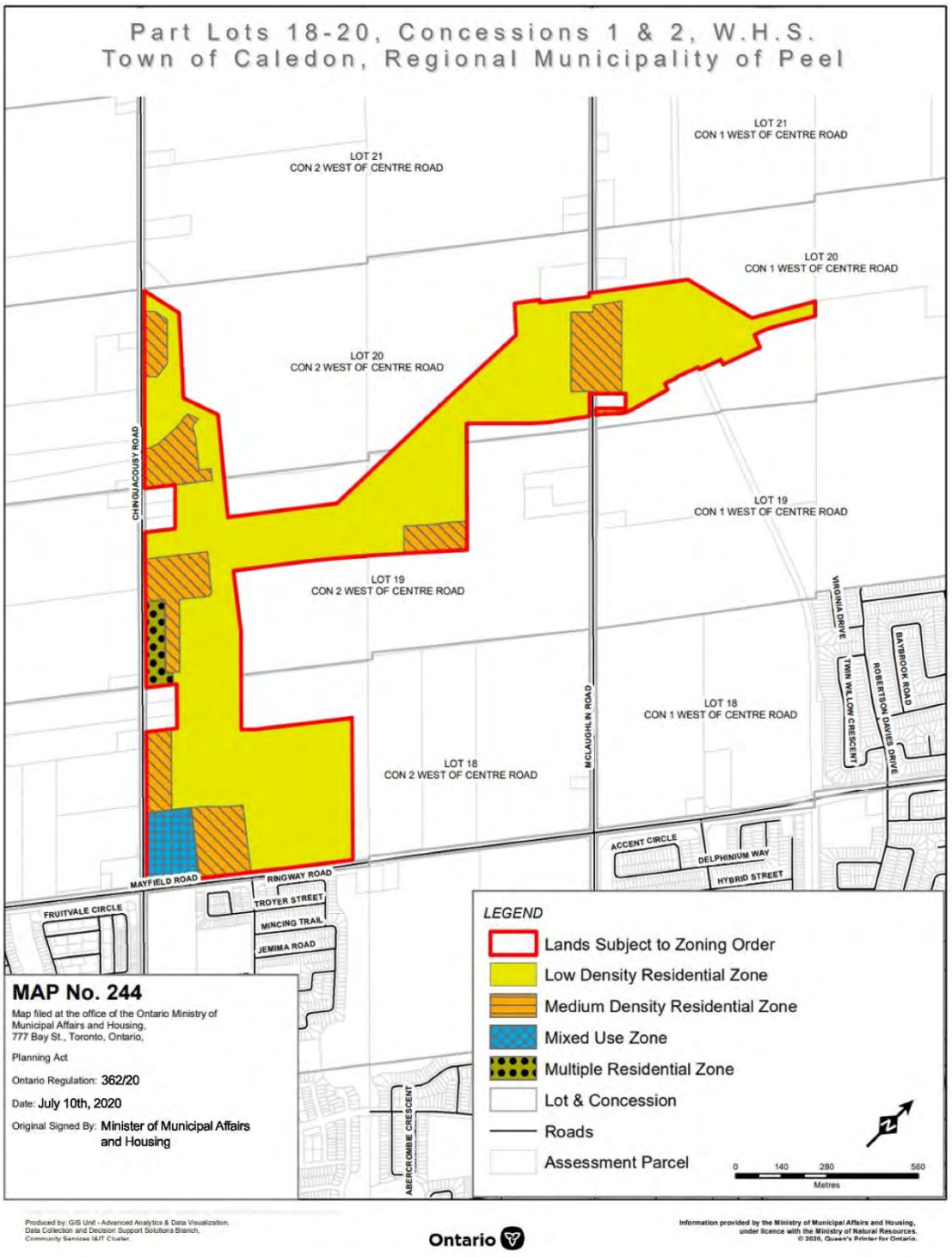


Figure 29: Land Uses within Ministerial Zoning Order Area

8.7.4 Future Fire Suppression Capabilities – N.F.P.A. 1720 Rural Demand Zone

This section illustrates the G.I.S. modelled analysis of the future C.F.E.S. fire suppression deployment capabilities in comparison to the applicable N.F.P.A. 1720 Rural Demand Zone performance benchmarks for the entire municipality and the assumed community growth projections. This section considers the deployment of a minimum of six firefighters able to respond within a fourteen minute response time (turn-out time + travel time) in comparison to the Towns historical fire related incident locations (January 1st, 2014 to December 31st, 2019) and the assumed future road network.

Within this analysis the use of the historical fire related incident locations is for reference and comparison purposes only to the existing fire suppression capabilities of the C.F.E.S. This fire master planning process cannot predict where future fire related incidents may occur, particularly in any of the future new community development areas. Within this analysis attention should be given to comparing the existing and future road network coverage as a measure of any potential impact on the future fire suppression capabilities of the C.F.E.S.

This analysis is also presented in two corresponding time frames that collectively reflect 24 hour emergency response coverage. These time frames include Monday through Friday daytime (7 am to 6 pm) and all other times representing evenings and weekends.

8.7.4.1 Entire Municipality - N.F.P.A. Rural Demand Zone Performance Benchmark (Monday through Friday Daytime)

The future fire suppression capabilities of the C.F.E.S. for the entire municipality were assessed in comparison to the N.F.P.A. 1720 Rural Area Demand Zone performance benchmark including a minimum of six firefighters able to respond within a fourteen minute response time (turn-out time + travel time) in comparison to the Town's historical fire related incident locations (January 1st, 2014 to December 31st, 2019) and the assumed future road network.

Table 43 indicates that the predicted future coverage of the historical fire related incident locations would increase slightly from the existing coverage of 35.7% to 36.1%. This slight increase is most likely associated with planned improvements to the existing interconnectivity of the current road network in the future. The predicted coverage of the

future road network is expected to decline from the historical coverage of 39.4% to 38.4% as a direct result of the increased number of roads within the Town.

Table 43: Entire Municipality - N.F.P.A. 1720 Rural Demand Zone Performance Benchmark (Monday through Friday Daytime)

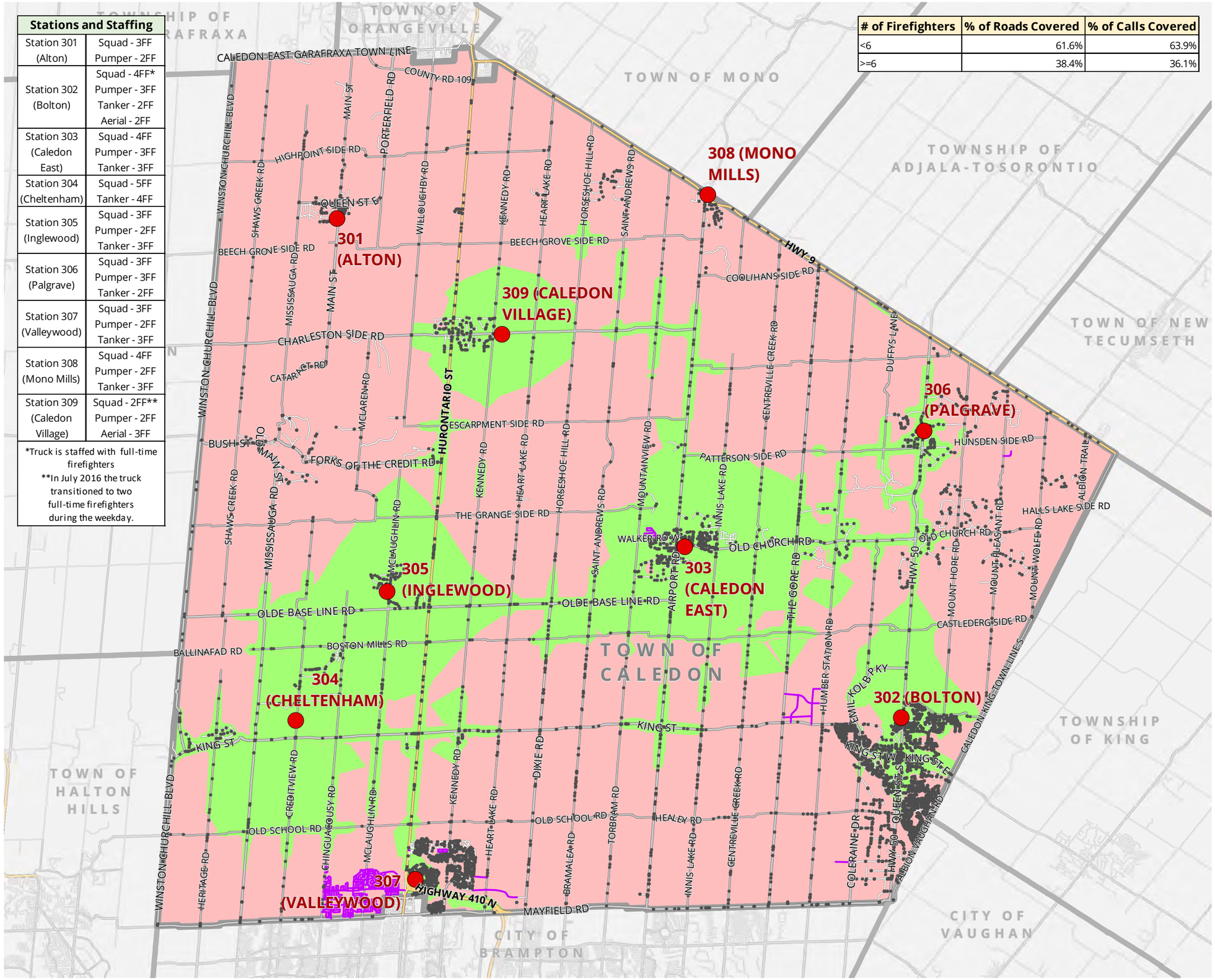
Scenario	N.F.P.A. 1720 Rural Demand Zone Standard (six firefighters arriving within a fourteen minute response time)	
	% of Roads Covered	% of Calls Covered
Existing Conditions	39.4%	35.7%
Future Conditions	38.4%	36.1%

Figure 30 illustrates the geographic areas highlighted in green where six firefighters were historically able to assemble on scene within a fourteen minute response time (turnout time +travel time). This analysis continues to highlight the variance of fire suppression coverage from the Town's existing fire stations that can be directly attributed to either the number of volunteer firefighters available to respond during this time period, or the respective turn-out time of the volunteer firefighters responding to the fire station they are assigned. This analysis indicates that based on the planned future community growth assumptions Station 304 (Cheltenham), Station 303 (Caledon East) Station 305 (Inglewood) and Station 309 (Caledon Village) will continue to provide the largest areas of geographical emergency response coverage. Notably the planned community growth in the Mayfield West area is outside of the fourteen minute (turn-out time + travel time) capabilities of the C.F.E.S.

Stations and Staffing	
Station 301 (Alton)	Squad - 3FF Pumper - 2FF
Station 302 (Bolton)	Squad - 4FF* Pumper - 3FF Tanker - 2FF Aerial - 2FF
Station 303 (Caledon East)	Squad - 4FF Pumper - 3FF Tanker - 3FF
Station 304 (Cheltenham)	Squad - 5FF Tanker - 4FF
Station 305 (Inglewood)	Squad - 3FF Pumper - 2FF Tanker - 3FF
Station 306 (Palgrave)	Squad - 3FF Pumper - 3FF Tanker - 2FF
Station 307 (Valleywood)	Squad - 3FF Pumper - 2FF Tanker - 3FF
Station 308 (Mono Mills)	Squad - 4FF Pumper - 2FF Tanker - 3FF
Station 309 (Caledon Village)	Squad - 2FF** Pumper - 2FF Aerial - 3FF

*Truck is staffed with full-time firefighters
**In July 2016 the truck transitioned to two full-time firefighters during the weekday.

# of Firefighters	% of Roads Covered	% of Calls Covered
<6	61.6%	63.9%
>=6	38.4%	36.1%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Rural Demand Zone Standard
(6 Firefighters in 14 Minutes, 80% of the Time)
Future Do Nothing Conditions
Entire Municipality
Day Staffing (Monday to Friday 7am - 6pm)
FIGURE 30

- Fire Station
- Historic Call (2014 - 2019)
- Future Road

Number of Staff On-Scene in a 14 minute Response Time (Turnout Time + Travel Time)

- 6 or More Firefighters
- Less Than 6 Firefighters

1:125,000
0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-02

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Rural Demand Zone, Future Conditions, Day Staffing.mxd

8.7.4.2 Entire Municipality - N.F.P.A. Rural Demand Zone Performance Benchmark (All Other Times)

Table 44 indicates that the predicted future coverage of the historical fire related incident locations would be 38.5% compared to 34.4% for the existing conditions. The predicted coverage of the future road network is expected to increase from the historical coverage of 42.3% to 45.3% as a direct result of the increased number of roads within the Town and the availability of volunteer firefighters during these times.

Table 44: Entire Municipality - N.F.P.A. 1720 Rural Demand Zone Performance Benchmark (All Other Times)

Scenario	N.F.P.A. 1720 Rural Demand Zone Standard (six firefighters arriving within a fourteen minute response time)	
	% of Roads Covered	% of Calls Covered
Existing Conditions	42.3%	34.4%
Future Conditions	45.3%	38.5%

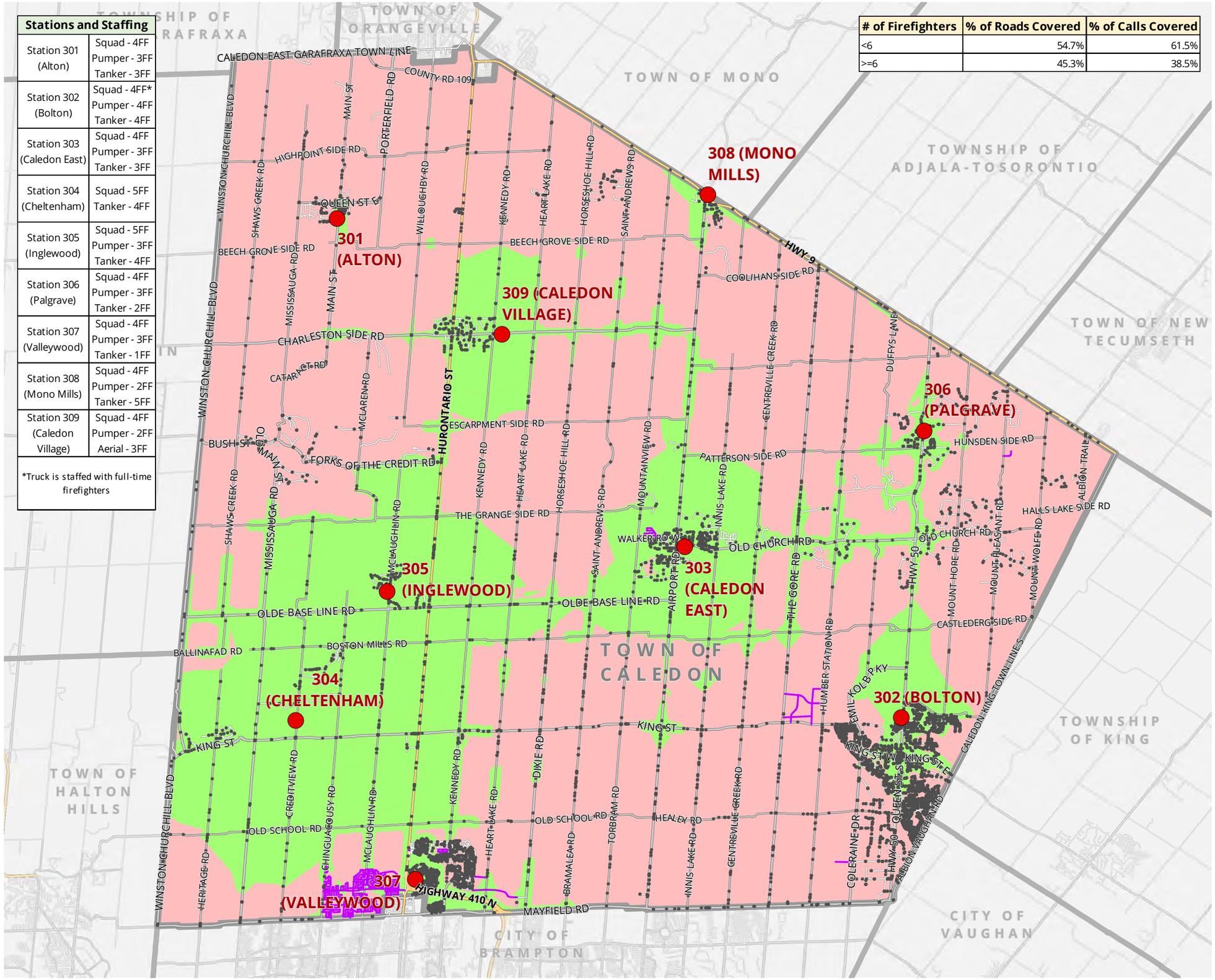
Figure 31 also illustrates the geographic areas highlighted in green where six firefighters were historically able to assemble on scene within a fourteen minute response time (turnout time +travel time). In comparison to the future emergency response coverage during the daytime Monday through Friday (7am to 6pm) there is a higher percentage of coverage to the historical fire related call locations of 2.4% (38.5 vs 36.1%) and a higher percentage of road network coverage of 6.9% (45.3% vs 38.4%).

This analysis continues to highlight the variance in the existing fire suppression coverage from the Town's existing fire stations that can be directly attributed to the number of volunteer firefighters available to respond on any given day of the week, or time of day. Station 304 (Cheltenham), Station 303 (Caledon East) Station 305 (Inglewood) and Station 309 (Caledon Village) are predicted to continue to provide the largest areas of geographical emergency response coverage with predicted improvements in the areas surrounding Station 307 (Valleywood) and Station 302 (Bolton).

Stations and Staffing	
Station 301 (Alton)	Squad - 4FF Pumper - 3FF Tanker - 3FF
Station 302 (Bolton)	Squad - 4FF* Pumper - 4FF Tanker - 4FF
Station 303 (Caledon East)	Squad - 4FF Pumper - 3FF Tanker - 3FF
Station 304 (Cheltenham)	Squad - 5FF Tanker - 4FF
Station 305 (Inglewood)	Squad - 5FF Pumper - 3FF Tanker - 4FF
Station 306 (Palgrave)	Squad - 4FF Pumper - 3FF Tanker - 2FF
Station 307 (Valleywood)	Squad - 4FF Pumper - 3FF Tanker - 1FF
Station 308 (Mono Mills)	Squad - 4FF Pumper - 2FF Tanker - 5FF
Station 309 (Caledon Village)	Squad - 4FF Pumper - 2FF Aerial - 3FF

*Truck is staffed with full-time firefighters

# of Firefighters	% of Roads Covered	% of Calls Covered
<6	54.7%	61.5%
>=6	45.3%	38.5%



TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Rural Demand Zone Standard
(6 Firefighters in 14 Minutes, 80% of the Time)
Future Do Nothing Conditions
Entire Municipality
All Other Times Staffing
FIGURE 31

- Fire Station
- Historic Call (2014 - 2019)
- Future Road

Number of Staff On-Scene in a 14 minute Response Time (Turnout Time + Travel Time)

- 6 or More Firefighters
- Less Than 6 Firefighters

1:125,000
0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-02

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Rural Demand Zone, Future Conditions, All Other Times Staffing.mxd

8.7.5 Future Fire Suppression Capabilities – N.F.P.A. 1720 Suburban Demand Zone

This section illustrates the G.I.S. modelled analysis of the historical C.F.E.S. fire suppression deployment capabilities in comparison to the applicable N.F.P.A. 1720 Suburban Demand Zone performance benchmarks for the defined Mayfield West Rural Service Centre and Bolton Rural Service Centre. This includes deploying a minimum of ten firefighters able to respond within a ten minute response time (turn-out time + travel time) to 80% of the fire related incidents. This analysis has also considered the Town's historical fire related emergency calls during the period from January 1st, 2014 to December 31st, 2019. This analysis is also presented in two corresponding time frames that collectively reflect 24 hour emergency response coverage. These time frames include Monday through Friday daytime (7 am to 6 pm) and all other times representing evenings and weekends.

8.7.5.1 Mayfield West Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Our analysis confirms that in the future without any changes to the current fire suppression deployment model the C.F.E.S. would not be able to assemble the applicable ten firefighters on scene within a ten minute response time (turn-out time + travel time) to any of the areas included within the future defined Mayfield West Rural Service Centre. The analysis presented in **Table 45** does indicate that Monday through Friday daytime (7am to 6pm) the C.F.E.S. is predicted to be able to deploy four volunteer firefighters to 37.2% of the historical fire related incidents, and 28.0% of the future road network.

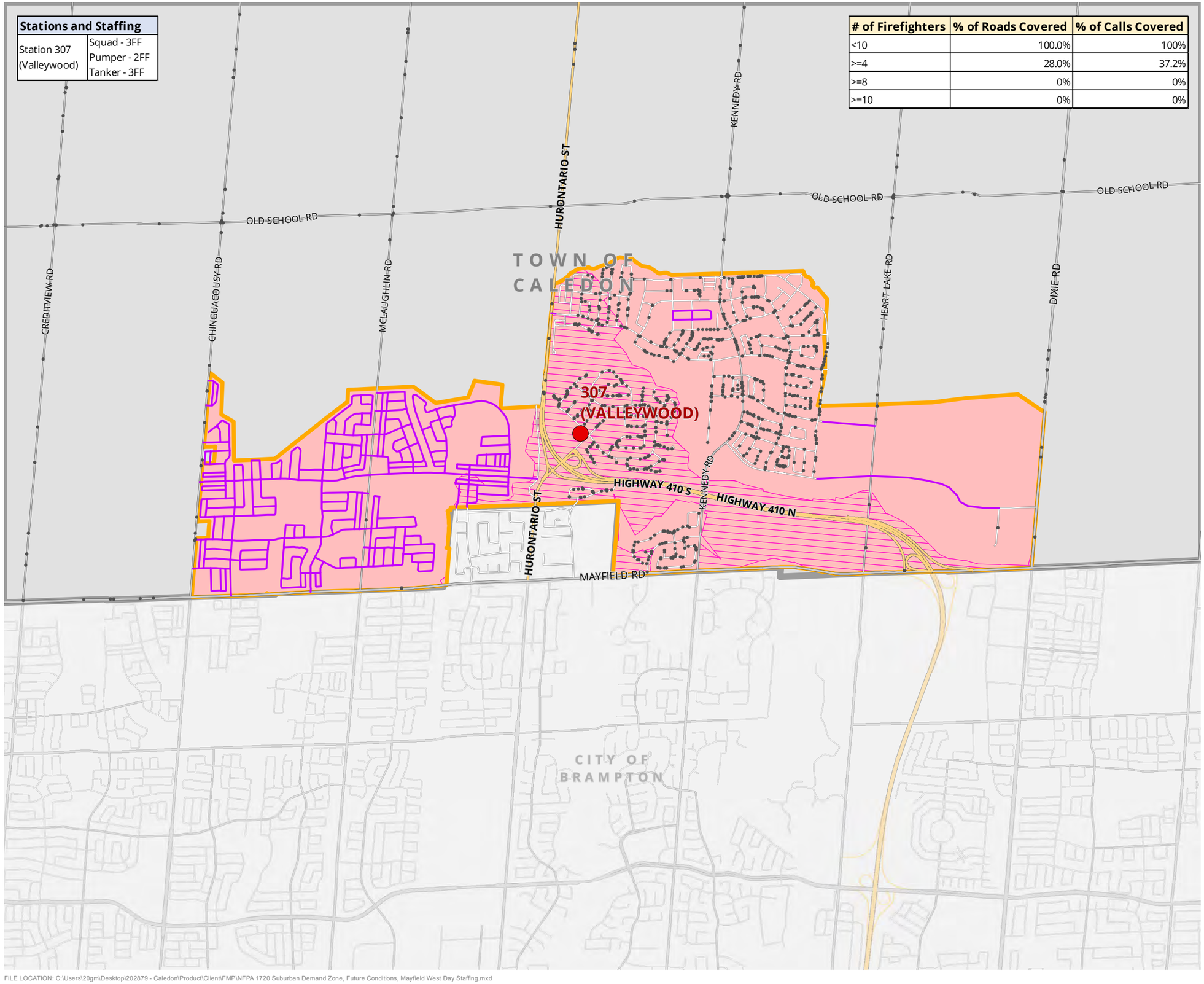
Table 45: Mayfield West Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	0%	0%
Future Conditions (8 FF in 10 Min.)	0%	0%
Future Conditions (4 FF in 10 Min.)	28.0%	37.2%

Figure 32 illustrates the G.I.S. modelled analysis of the predicted C.F.E.S. fire suppression deployment capabilities in comparison to the applicable N.F.P.A. 1720 Suburban Demand Zone performance benchmarks for the planned future Mayfield West Rural Service Centre. This model visually illustrates the areas within the Mayfield West Rural Service Centre where the C.F.E.S. is currently able to assemble a portion of the targeted performance deployment benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) Monday through Friday daytime (7am to 6pm).

Stations and Staffing	
Station 307 (Valleywood)	Squad - 3FF Pumper - 2FF Tanker - 3FF

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	100.0%	100%
>=4	28.0%	37.2%
>=8	0%	0%
>=10	0%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard (10 Firefighters in 10 Minutes, 80% of the Time)
Future Do Nothing Conditions
Mayfield West
Day Staffing (Monday to Friday 7am - 6pm)
FIGURE 32

- Fire Station
- Historic Call (2014 - 2019)
- Future Road
- Mayfield West Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time +Travel Time)

- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

1:30,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Suburban Demand Zone, Future Conditions, Mayfield West Day Staffing.mxd

8.7.5.2 Mayfield West Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (All Other Times)

The analysis within this section presents the predicted future fire suppression capabilities of the C.F.E.S. within the planned future Mayfield West Rural Service Centre at all other times including evenings and weekends. This analysis further confirms that based on the current fire suppression deployment model for this area that relies primarily on volunteer firefighters the C.F.E.S. will continue to be unable to attain the applicable N.F.P.A. performance benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time).

Table 46 does indicate that at all other times including evenings and weekends the C.F.E.S. is predicted to be able to deploy four volunteer firefighters to 42.1% of the historical fire related incidents, and 34.9% of the planned future road network, and eight volunteer firefighters to 5.0% of the historical fire related incidents, and 4.1% of the planned future road network in the future Mayfield West Rural Service Centre area.

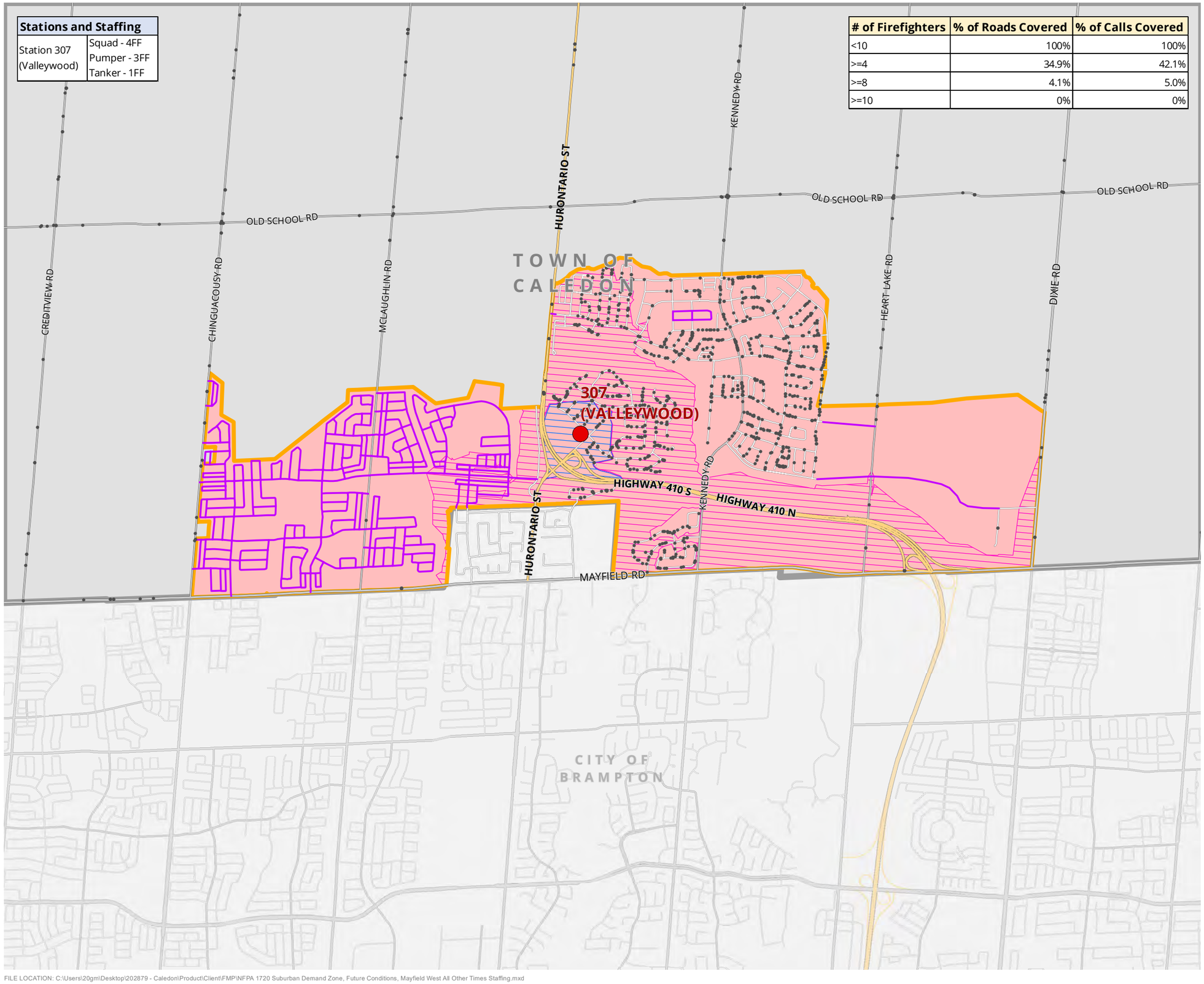
Table 46: Mayfield West Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	0%	0%
Future Conditions (8 FF in 10 Min.)	4.1%	5.0%
Future Conditions (4 FF in 10 Min.)	34.9%	42.1%

Figure 33 illustrates the areas within the Mayfield West Rural Service Centre where the C.F.E.S. is predicted to be able to provide a portion of the targeted performance deployment benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) at all other times including evenings and weekends.

Stations and Staffing	
Station 307 (Valleywood)	Squad - 4FF Pumper - 3FF Tanker - 1FF

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	100%	100%
>=4	34.9%	42.1%
>=8	4.1%	5.0%
>=10	0%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard (10 Firefighters in 10 Minutes, 80% of the Time)
Future Do Nothing Conditions
Mayfield West
All Other Times Staffing
FIGURE 33

- Fire Station
- Historic Call (2014 - 2019)
- Future Road
- Mayfield West Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time +Travel Time)

- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

1:30,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

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PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Suburban Demand Zone, Future Conditions, Mayfield West All Other Times Staffing.mxd

8.7.5.3 Bolton Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Our analysis confirms that in the future without any changes to the current fire suppression deployment model the C.F.E.S. would not be able to assemble the applicable ten firefighters on scene within a ten minute response time (turn-out time + travel time) to any of the areas included within the future defined Bolton Rural Service Centre. The analysis presented in **Table 47** indicates that Monday through Friday daytime (7am to 6pm) the C.F.E.S. is predicted to be able to deploy four full-time firefighters to 97.7% of the historical fire related incidents, and 96.8% of the planned future road network.

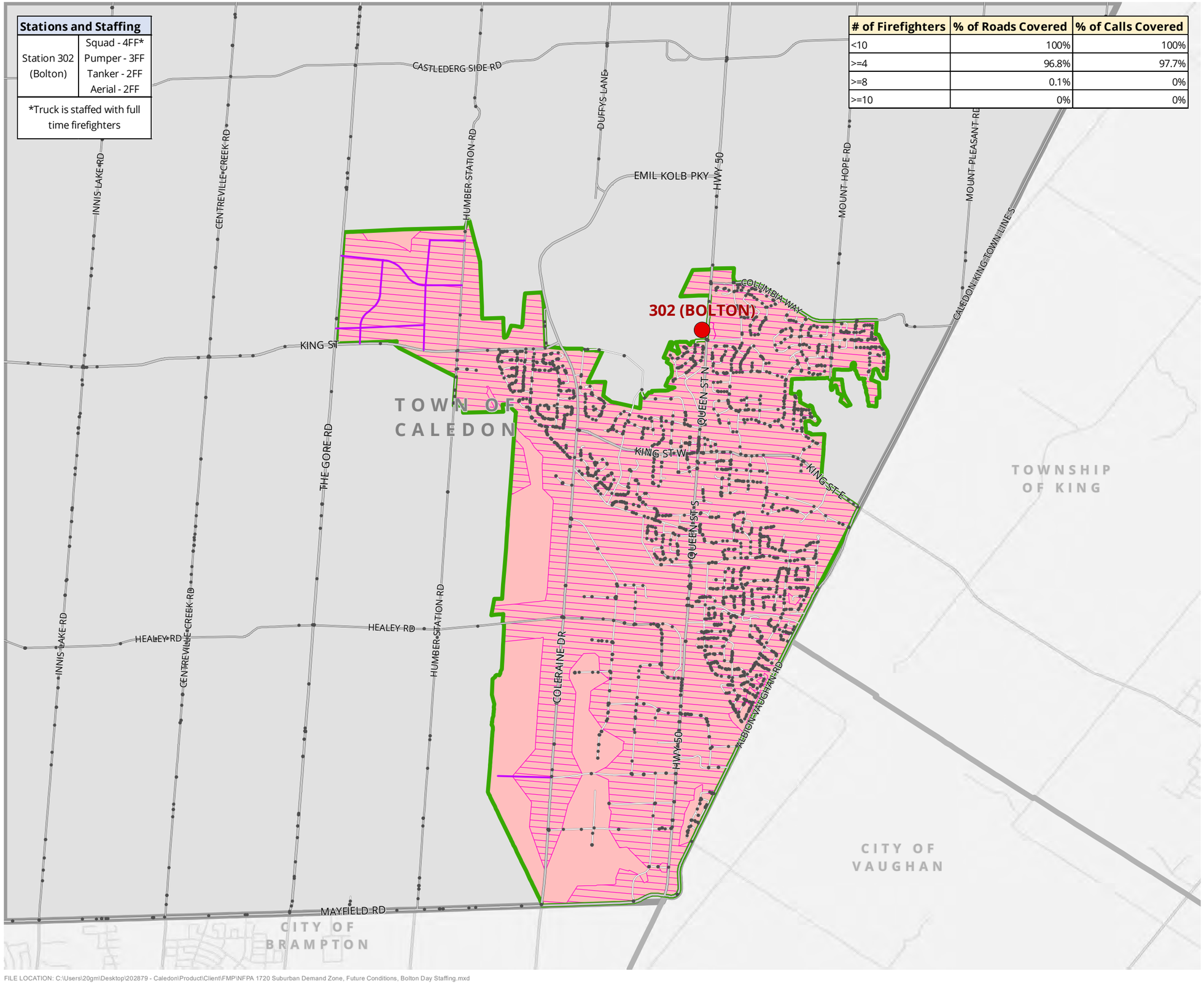
Table 47: Bolton Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	0%	0%
Future Conditions (8 FF in 10 Min.)	0.1%	0%
Future Conditions (4 FF in 10 Min.)	96.8%	97.7%

Figure 34 illustrates the G.I.S. modelled analysis of the historical C.F.E.S. fire suppression deployment capabilities in comparison to the applicable N.F.P.A. 1720 Suburban Demand Zone performance benchmarks for the defined Bolton Rural Service Centre. This model visually illustrates the areas within the Bolton Rural Service Centre where the C.F.E.S. is currently able to assemble a portion of the targeted performance deployment benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) Monday through Friday daytime (7am to 6pm).

Stations and Staffing	
Station 302 (Bolton)	Squad - 4FF* Pumper - 3FF Tanker - 2FF Aerial - 2FF
*Truck is staffed with full time firefighters	

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	100%	100%
>=4	96.8%	97.7%
>=8	0.1%	0%
>=10	0%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard
(10 Firefighters in 10 Minutes, 80% of the Time)
Future Conditions
Bolton
Day Staffing (Monday to Friday 7am - 6pm)
FIGURE 34

- Fire Station
- Historic Call (2014 - 2019)
- Future Road
- Bolton Future Service Area
- 8 or More Firefighters
- 4 or More Firefighters

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time + Travel Time)

- 10 or More Firefighters
- Less Than 10 Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

1:40,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Suburban Demand Zone, Future Conditions, Bolton Day Staffing.mxd

8.7.5.4 Bolton Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (All Other Times)

Table 48 indicates that at all other times including evenings and weekends the C.F.E.S. is predicted to be able to deploy four full-time firefighters to 95.9% of the historical fire related incidents, and 94.6% of the planned future road network in the future Bolton Rural Service Centre area.

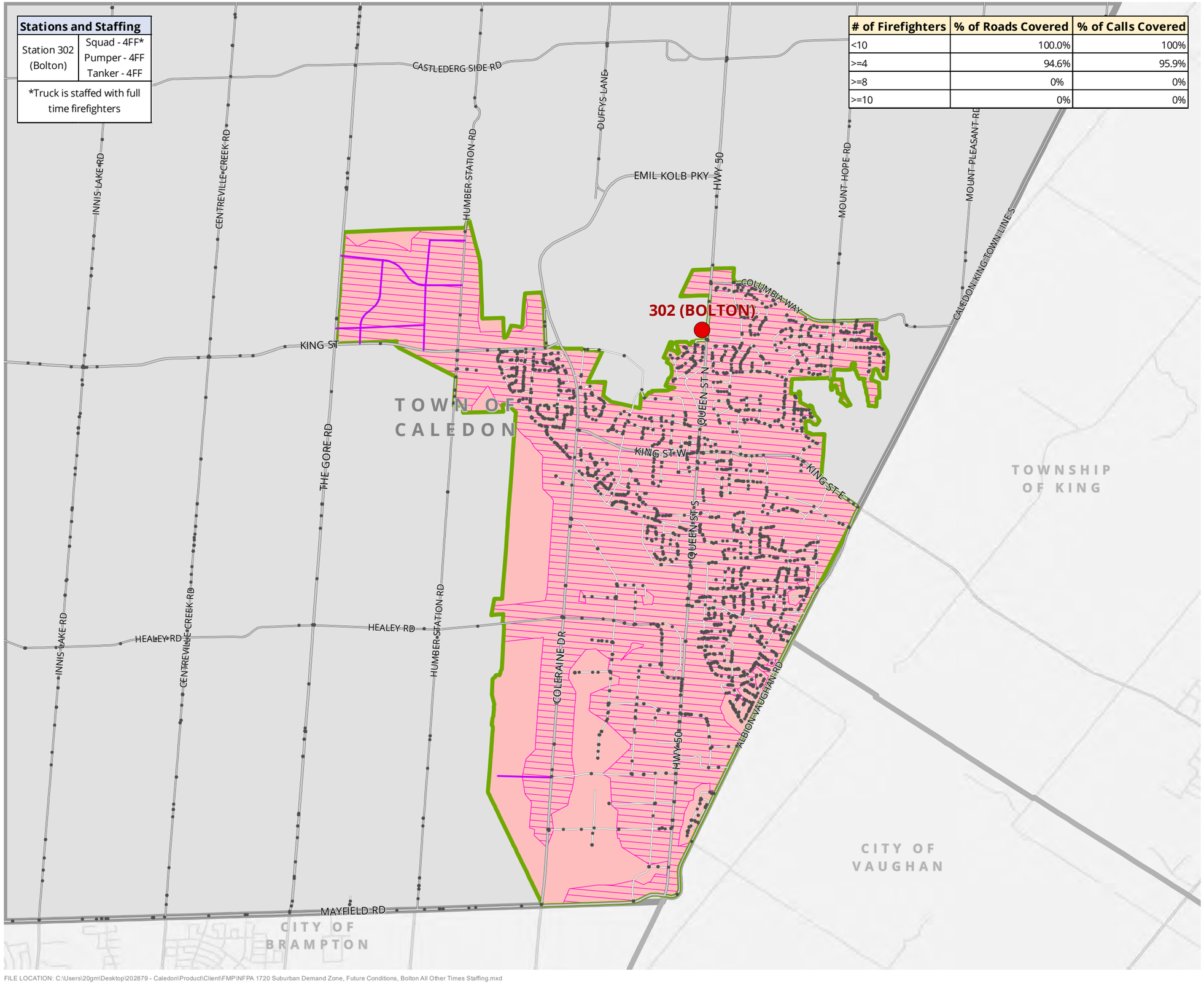
Table 48: Bolton Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (All Other Times)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	0%	0%
Future Conditions (8 FF in 10 Min.)	0%	0%
Future Conditions (4 FF in 10 Min.)	94.6%	95.9%

Figure 35 visually illustrates the areas within the Bolton Rural Service Centre where the C.F.E.S. is predicted to be able to assemble a portion of the targeted performance deployment benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) at all other times including evenings and weekends.

Stations and Staffing	
Station 302 (Bolton)	Squad - 4FF* Pumper - 4FF Tanker - 4FF
*Truck is staffed with full time firefighters	

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	100.0%	100%
>=4	94.6%	95.9%
>=8	0%	0%
>=10	0%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard
(10 Firefighters in 10 Minutes, 80% of the Time)
Future Do Nothing Conditions
Bolton
All Other Times Staffing
FIGURE 35

- Fire Station
- Historic Call (2014 - 2019)
- Future
- Bolton Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time + Travel Time)

- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

1:40,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Suburban Demand Zone, Future Conditions, Bolton All Other Times Staffing.mxd

8.7.6 Future Fire Suppression Capabilities Summary

Our analysis of the Town's planned future community growth indicates the presence of planned future community growth and intensification. Based on information provided by Town staff the planned future growth in the short-term (1 to 5 years) is expected to be concentrated in the Mayfield West area. Subject to further Regional and Town planning studies being completed the predicted community growth in the Mayfield West area is predicted to be followed by further growth and intensification in the Bolton West area.

Further planned community growth should be expected to place further strain on the C.F.E.S. ability to sustain its current level of fire suppression services. The projected community growth including further Greenfield development and intensification will also place more emphasis on the need for the C.F.E.S. to improve its current fire suppression capabilities in striving to achieve the applicable N.F.P.A. fire suppression performance benchmarks identified within this F.M.P.

In summary, the analyses within this F.M.P. identifies that consideration should be given to identifying opportunities to enhance the existing fire suppression capabilities of the C.F.E.S. in response to the existing fire related risks within the community as well as preparing for planned community growth.

8.8 Enhanced Fire Suppression Strategies/Scenarios

The analysis presented within this F.M.P. confirms the success that the Town of Caledon and the C.F.E.S. have achieved in sustaining an effective and efficient fire protection model. The foundation of this model was built on the dedication and commitment of volunteer firefighters. Over the past decade the C.F.E.S. has been evolving into a combination, or composite fire department model that includes both volunteer and full-time firefighters. As the C.F.E.S. continues to evolve into this new composite model every effort must be made to ensure the sustainability of the current complement of volunteer firefighters, and where possible support its incremental increase to match that of an increased complement of full-time firefighters.

The proposed fire suppression options focus on the priority of developing one-single unified fire department that recognises the important value and role of both volunteer and full-time firefighters. The internal stakeholder consultation process conducted as part of this fire master planning process confirmed the high degree of dedication on the part of both the current volunteer and full-time firefighters. In our view, where possible,

every effort should be made to enhance the current volunteer recruitment program to support the opportunity for a volunteer firefighter to seek a career as a full-time firefighter in the Town of Caledon.

The proposed enhanced fire suppression strategies and scenarios have considered the current fire suppression capabilities of the C.F.E.S., the Towns legislative requirements as defined by the F.P.P.A. and the O.H.S.A. and current municipal best practices. The strategies and scenarios presented in the following sections specifically focus on enhancing the current organizational structure of the C.F.E.S. to sustain and further develop an effective and efficient composite fire department model that has one-single unified vision for the future of the C.F.E.S.

8.8.1 Proposed Assistant Deputy Fire Chief

The current organizational structure of the C.F.E.S. includes a full-time Fire Chief and two full-time Deputy Fire Chiefs. These three positions are ultimately responsible for both the strategic and day to day management and overall leadership of the C.F.E.S. Within the current organizational structure these three positions are directly responsible for the administrative and operational functions of the C.F.E.S that includes a complement of over 280 volunteer firefighters and 36 full-time staff including the presence of a Collective Agreement.

The current organizational structure of the C.F.E.S. includes nine Volunteer District Chiefs and nine Volunteer Assistant Chiefs. Our review has identified sufficient evidence to indicate that to sustain and further enhance the current composite fire department model there is an immediate need to create a new position of a full-time Assistant Deputy Fire Chief. In our view this position should become directly responsible for overseeing the day to day and operational needs of managing the volunteer firefighter component of the C.F.E.S. In our view this new position should become the single point of contact for the Volunteer District Chiefs. The result would be further enhanced communication and direction to the Volunteer District Chiefs further supporting the goal of one-single unified fire department.

In addition to supporting this goal, the addition of this position will provide the opportunity for the Fire Chief and Deputy Fire Chiefs to re-balance their current roles and responsibilities with a further goal to support the Fire Chief's strategic planning initiatives.

Council Recommendation #8: That subject to Council's consideration and approval of the proposed Fire Master Plan, the Town of Caledon hire the proposed full-time Assistant Deputy Fire Chief.

8.8.2 Proposed Volunteer Firefighter Performance Benchmarks

There is a warranted need to continue to prioritize the volunteer firefighter turnout times and the number of available volunteer firefighters towards further enhancing the fire suppression capabilities of the C.F.E.S.

This F.M.P. recommends that the Town of Caledon continue to focus on striving to achieve the applicable N.F.P.A. fire suppression performance benchmarks including a minimum of six firefighters responding within a 14 minute response time (turnout time + travel time) to 80% of the fire related incidents specifically in the rural area as well as the entire Municipality.

In our view, continuing to enhance the department's fire suppression performance capabilities towards achieving this benchmark will require the continued integrated utilization of volunteer and full-time firefighters. Strategies that target volunteer turnout times and the number of volunteer firefighters responding "all of the time" will be a critical element to further enhancing the departments fire suppression capabilities.

The analyses within this F.M.P. includes a sample group of six municipalities within Ontario where Dillon has conducted similar analysis of departments utilizing volunteer firefighters and deploying a minimum of four volunteer firefighters on the first responding apparatus.[35] The 80th percentile turnout time for these fire departments is 6 minutes 30 seconds for the first apparatus responding, staffed with a minimum of four volunteer firefighters.

In our experience, these departments and other departments utilizing volunteer firefighters consistently achieve a deployment of the second and third responding apparatus within time increments of approximately two additional minutes for each additional apparatus. Based on this experience, we are proposing that the C.F.E.S. continue to strive to achieve benchmarks for volunteer turnout time and minimum

[35] The comparison municipalities were: Wilmot Township, Town of Innisfil, Town of New Tecumseth, Township of Uxbridge, Essa Township, and Town of Bradford West Gwillimbury.

number of volunteer firefighters responding on each apparatus presented within **Table 49.**

Table 49: Proposed C.F.E.S. Turnout Time and Number of Volunteer Firefighter Benchmarks

Comparison Municipalities		Proposed C.F.E.S. Benchmarks	
Deployment	Turnout Time	Deployment	Turnout Time
Minimum 4 Volunteer Firefighters (1st Apparatus)	6 minutes 30 seconds	Minimum 4 Volunteer Firefighters (1st Apparatus)	6 minutes 30 seconds
Minimum 2 Volunteer Firefighters (2nd Apparatus)	--	Minimum 2 Volunteer Firefighters (2nd Apparatus)	8 minutes 30 seconds
Minimum 2 Volunteer Firefighters (3rd Apparatus)	--	Minimum 2 Volunteer Firefighters (3rd Apparatus)	10 minutes 30 seconds

Council Recommendation #9: That subject to Council's consideration and approval of the proposed Fire Master Plan, the Caledon Fire and Emergency Services continue to strive towards utilization of the proposed volunteer firefighter turnout time benchmarks.

8.8.1 Proposed Increase of Volunteer Firefighters

Historically communities operating volunteer fire departments succeeded with a complement of 20 to 25 volunteer firefighters per station. This complement relied heavily on the availability of these individuals to leave their place of work, live in close proximity to the fire station and be available on a regular basis to train and respond.

The work/life balance of today's volunteer firefighters who are involved in more social activities, work priorities and life's priorities are making it increasingly difficult to commit the time required to sustain the required training competencies and response capabilities of a volunteer firefighter.

The current total complement of volunteer firefighters assigned to each of the C.F.E.S. stations ranges from 25 to 30 volunteers and this number can vary at any given time. Recent trends within the industry have recognized the need to increase the total complement to 30 to 40 volunteer firefighters per station, as was presented within the 2018 F.M.P.

Analyses of the C.F.E.S. historical turnout times and number of volunteer firefighters responding indicates that five of the nine fire stations are either achieving the turnout time and number of volunteer firefighters recommended for the 1st responding apparatus, or are very close. The remaining four including Station 301 (Alton), 304 (Cheltenham) 306 (Palgrave) and 309 (Caledon Village) have extended turnout times.

Stakeholder consultation with the volunteer firefighters and senior department staff conducted as part of this fire planning process indicated that recruiting additional volunteer firefighters may be a challenge in some areas of the Town. In our experience this is not uncommon in communities such as Alton where there is a smaller pool of people living and or working within the immediate area and available to be a volunteer firefighter.

However, in our experience increasing the total complement of volunteers and targeting people that may work shifts or are available Monday through Friday during the daytime should be considered as a core component of sustaining the operational efficiencies of the volunteer firefighters. In the Town of Caledon this strategy may result in the need for there to be varying amounts of the total complement of volunteer firefighters assigned to each fire station.

Council Recommendation #10: That subject to Council's consideration and approval of the proposed Fire Master Plan, the Fire Chief be given the authority to increase the total complement of volunteer firefighters at existing stations by up to a maximum of 10% of the existing Council approved total complement of 280 volunteer firefighters.

8.8.2 Proposed Enhanced Recruitment and Retention of Volunteer Firefighters

Increasing the complement of volunteer firefighters may require revising the current volunteer firefighter recruitment process. This F.M.P. includes a recommendation to utilize the recruitment and retention strategies for volunteer firefighters included within

the Alberta Volunteer Firefighter Recruitment and Retention Strategy as part of enhancing recruitment and retention of volunteer firefighters in the Town of Caledon.

One of the options that the Town should consider in revising its volunteer recruitment and retention strategy is to provide further financial incentives such as access to some type of health benefit program for volunteer firefighters. In our experience, many volunteer firefighters are either self-employed, do not have health benefits through their regular employer or can simply not afford the cost of a health benefit program.

Our research into conducting this F.M.P. identifies a neighbouring community that provides a program such as this. In our view, further investigation of this strategy as an element of a revised recruitment and retention strategy should be considered.

In our experience, a revised volunteer firefighter recruitment strategy should also include supporting other current Town employees in becoming volunteer firefighters. This F.M.P. places significant emphasis on the importance of sustaining volunteer firefighters and should recognize that although other Town employees may not live within the municipality they are a readily available resource during the weekday. The implementation of this strategy would also highlight the importance of volunteer firefighters to other employers within the Town.

Council Recommendation #11: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to further enhancing the current Volunteer Firefighter recruitment and retention program.

8.8.3 Proposed Volunteer Firefighter Introduction of Remuneration Program

Through the internal stakeholder engagement sessions with C.F.E.S. volunteer firefighters, we learned that once a volunteer firefighter completes his/her probationary period, he/she receives the same remuneration as other volunteer firefighters, regardless of years of service. In our view, it would be beneficial to the C.F.E.S. to implement a grid system, whereby volunteer firefighters progress through a class system (i.e. probationary, 4th class, 3rd class, 2nd class and 1st class), with a commensurate remuneration grid. This approach recognizes the value of experienced personnel, while encouraging growth and advancement of volunteer firefighters within the department.

This type of structure also allows for succession planning opportunities within the department. To meet the increased service delivery needs of the Town, the C.F.E.S. will be required to hire more full-time firefighters. Ideally, the majority, if not all new full-time firefighter positions will be filled by C.F.E.S. volunteer firefighters who have progressed through the class system. In our view, there is value in prioritizing internal candidates familiar with C.F.E.S. operations.

Council Recommendation #12: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to implementing the proposed Volunteer Firefighter Remuneration Program.

8.8.4 Proposed Fire Station 310

In response to further enhancing the existing fire suppression capabilities of the C.F.E.S., as well as preparing for the planed future community growth, this F.M.P. has considered the option for implementing a 10th fire station to be located within the Mayfield West Rural Service Centre area. It is our understandings that the Towns current 2019-2028 capital project plan includes funding for a 10th fire station in 2023/2024 with a planned opening in 2025. Based on our review of the C.F.E.S. existing fire suppression services and the Towns planned community growth this 10th fire station should be planned for development/implementation in the Mayfield West Rural Service area.

In our view, there are a number of scenarios to be considered in developing/implementing this proposed 10th fire station. These include considering options for the fire station location and strategies for the staffing of this fire station. As such the analysis within this F.M.P. has considered two options for the location of this 10th fire station, and includes a proposed staffing scenario for this 10th fire station. The proposed staffing strategy is the same for both of the prosed fire station locations.

8.8.4.1 Scenario 310a Location of Proposed Fire Station 310

The proposed scenario 310a includes developing/implementing a 10th fire station located in the area of Abbotside Way and Learmont Ave and staffing this station with a complement of 20 full-time firefighters to staff a Quint apparatus 24/7 and 365 days a year. The proposed staffing for this station would also include recruiting a complement of 15 to 20 volunteer firefighters to staff a pumper tanker. The operation of this station

would include a minimum of four full-time firefighters on duty at all times supported by the proposed complement of volunteer firefighters.

Our analysis of this fire station location and predicted fire suppression deployment capabilities of the C.F.E.S. also includes sustaining the current operational capabilities of Station 307 (Valleywood) as currently operated by volunteer firefighters.

Mayfield West Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

The analysis presented within **Table 50** indicates that with the development/implementation of the proposed 10th fire station at this location the predicted fire suppression capabilities of the C.F.E.S. would be to deploy four firefighters to arrive on scene within a ten minute response time (turnout time + travel time) to 99.5% of the historical fire related incidents and 65.8% of the future road network. The C.F.E.S. would also be able to deploy eight firefighters to arrive on scene within a ten minute response time (turnout time + travel time) to 33.7% of the historical fire related incidents and 27.2% of the future road network.

In comparison to the applicable N.F.P.A. fire suppression performance benchmark of deploying ten firefighters to arrive on scene within a ten minute response time (turn-out time + travel time) to 80% of the fire related incidents this scenario indicates that the C.F.E.S. is not predicted to be able to achieve a deployment of ten firefighters to the historical fire related incidents, or the future road network in the proposed future Mayfield West Rural Service Centre area.

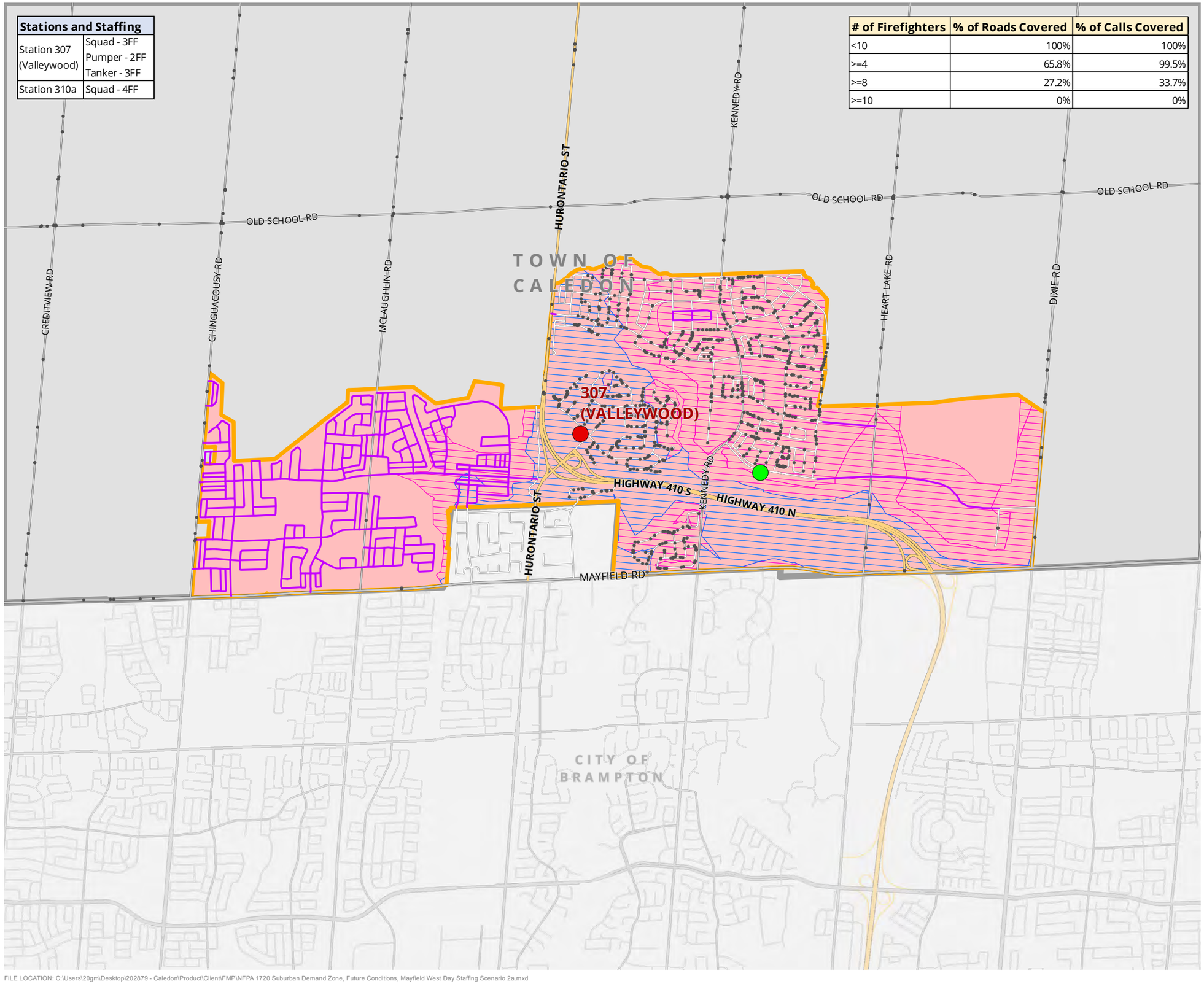
Table 50: Proposed Fire Station 310a Location - Mayfield West Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	0%	0%
Future Conditions (8 FF in 10 Min.)	27.2%	33.7%
Future Conditions (4 FF in 10 Min.)	65.8%	99.5%

Figure 36 illustrates the G.I.S. modelled analysis of the predicted C.F.E.S. fire suppression deployment capabilities with the addition of the proposed 10th Fire Station 310a location in comparison to the applicable N.F.P.A. 1720 Suburban Demand Zone performance benchmarks for the planned future Mayfield West Rural Service Centre.

Stations and Staffing	
Station 307 (Valleywood)	Squad - 3FF Pumper - 2FF Tanker - 3FF
Station 310a	Squad - 4FF

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	100%	100%
>=4	65.8%	99.5%
>=8	27.2%	33.7%
>=10	0%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard (10 Firefighters in 10 Minutes, 80% of the Time)
Future Scenario 2a, Add Station 310a
Mayfield West
Day Staffing (Monday to Friday 7am - 6pm)
FIGURE 36

- Proposed Fire Station 310a
- Fire Station
- Historic Call (2014 - 2019)
- Future Road
- Mayfield West Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time +Travel Time)

- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

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MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

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STATUS: DRAFT
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FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Suburban Demand Zone, Future Conditions, Mayfield West Day Staffing Scenario 2a.mxd

Mayfield West Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (All Other Times)

Table 51 indicates that at all other times, including evenings and weekends, the C.F.E.S. is predicted to be able to deploy four volunteer firefighters to 99.5% of the historical fire related incidents, and 65.2% of the planned future road network, and eight volunteer firefighters to 36.2% of the historical fire related incidents, and 33.5% of the planned future road network in the future Mayfield West Rural Service Centre area.

In comparison to the applicable N.F.P.A. fire suppression performance benchmark of deploying ten firefighters to arrive on scene within a ten minute response time (turn-out time + travel time) to 80% of the fire related incidents this scenario indicates that the C.F.E.S. is predicted to be able to achieve a deployment of ten firefighters to 5.0% of the historical fire related incidents, and 4.1% of the future road network in the proposed future Mayfield West Rural Service Centre area.

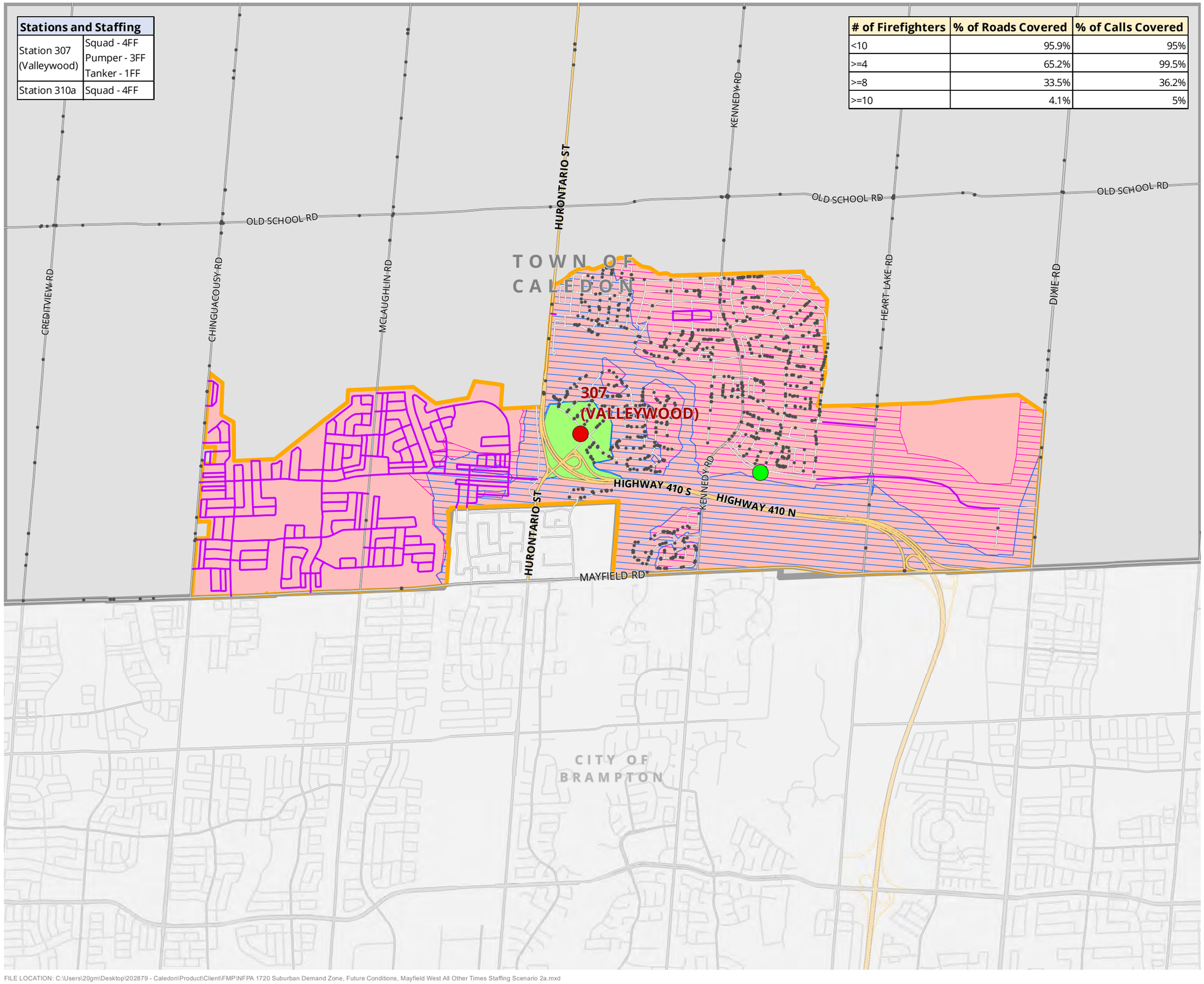
Table 51: Proposed Fire Station 310a Location - Mayfield West Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	4.1%	5.0%
Future Conditions (8 FF in 10 Min.)	33.5%	36.2%
Future Conditions (4 FF in 10 Min.)	65.2%	99.5%

Figure 37 illustrates the areas within the Mayfield West Rural Service Centre where the C.F.E.S. is predicted to be able to provide a portion of the targeted performance deployment benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) at all other times including evenings and weekends.

Stations and Staffing	
Station 307 (Valleywood)	Squad - 4FF Pumper - 3FF Tanker - 1FF
Station 310a	Squad - 4FF

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	95.9%	95%
>=4	65.2%	99.5%
>=8	33.5%	36.2%
>=10	4.1%	5%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard (10 Firefighters in 10 Minutes, 80% of the Time)
Future Scenario 2a, Add Station 310a
Mayfield West
All Other Times Staffing
FIGURE 37

- Proposed Fire Station 310a
- Fire Station
- Historic Call (2014 - 2019)
- Future Road
- Mayfield West Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time +Travel Time)

- More Than 10 Firefighters
- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

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MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

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DATE: 2020-11-03

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8.8.4.2 Scenario 310b Location of Proposed Fire Station 310

The proposed scenario 310b includes developing/implementing a 10th fire station located in the area of Kennedy Rd and Bonnieglen Farm Blvd and staffing this station with a complement of 20 full-time firefighters to staff a Quint apparatus 24/7 and 365 days a year. The proposed staffing for this station would also include recruiting a complement of 15 to 20 volunteer firefighters to staff a pumper tanker. The operation of this station would include a minimum of four full-time firefighters on duty at all times supported by the proposed complement of volunteer firefighters.

Our analysis of this fire station location and predicted fire suppression deployment capabilities of the C.F.E.S. also includes sustaining the current operational capabilities of Station 307 (Valleywood) as currently operated by volunteer firefighters.

Mayfield West Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

The analysis presented within **Table 52** indicates that with the development/implementation of the proposed 10th fire station at this location the predicted fire suppression capabilities of the C.F.E.S. would be to deploy four firefighters to arrive on scene within a ten minute response time (turnout time + travel time) to 99.4% of the historical fire related incidents and 78.9% of the future road network. The C.F.E.S. would also be able to deploy eight firefighters to arrive on scene within a ten minute response time (turnout time + travel time) to 37.2% of the historical fire related incidents and 28.0% of the future road network.

In comparison to the applicable N.F.P.A. fire suppression performance benchmark of deploying ten firefighters to arrive on scene within a ten minute response time (turn-out time + travel time) to 80% of the fire related incidents this scenario indicates that the C.F.E.S. is not predicted to be able to achieve a deployment of ten firefighters to the historical fire related incidents or the future road network in the proposed future Mayfield West Rural Service Centre area.

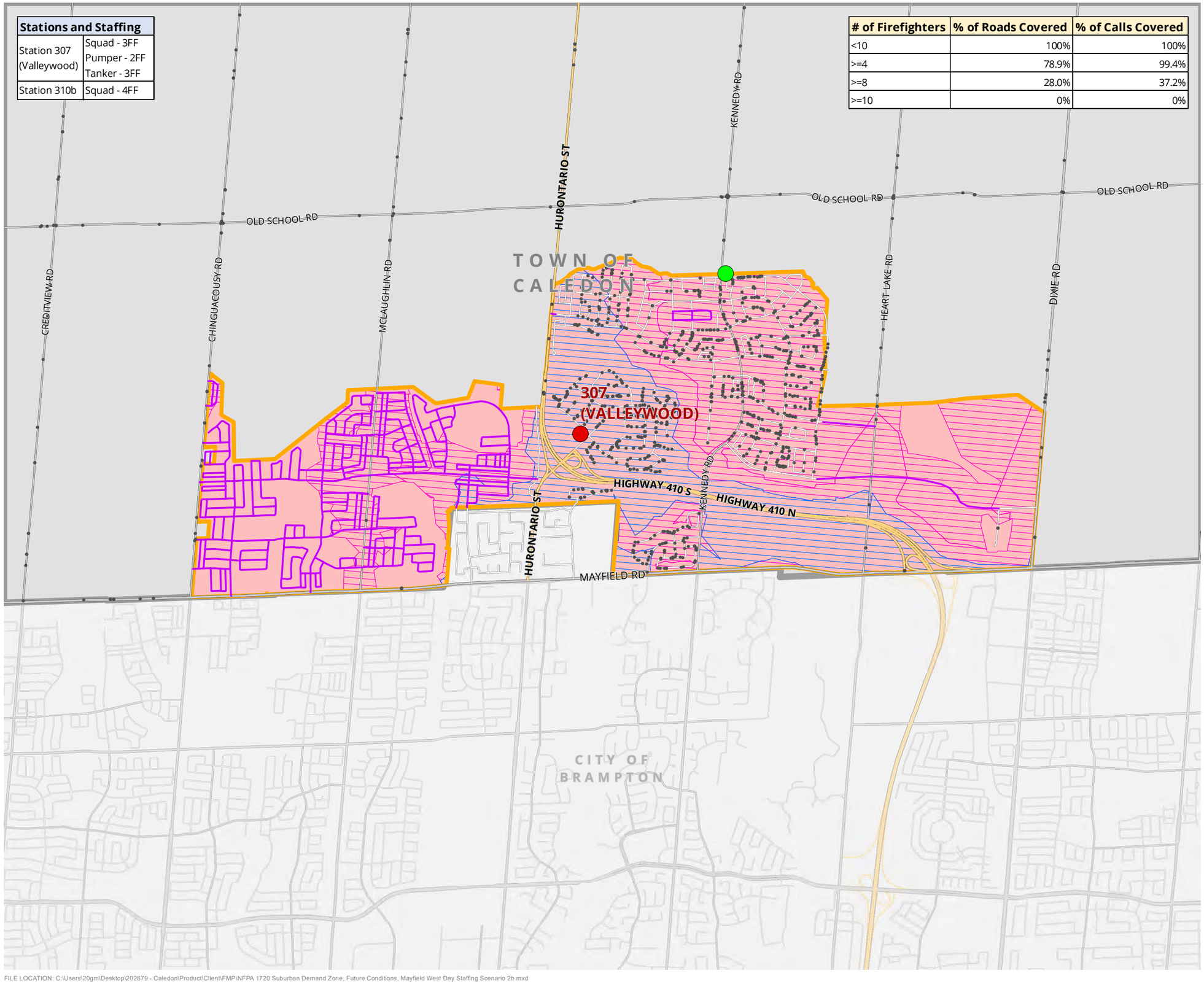
Table 52: Proposed Fire Station 310b Location - Mayfield West Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	0%	0%
Future Conditions (8 FF in 10 Min.)	28.0%	37.2%
Future Conditions (4 FF in 10 Min.)	78.9%	99.4%

Figure 38 illustrates the G.I.S. modelled analysis of the predicted C.F.E.S. fire suppression deployment capabilities with the addition of the proposed 10th Fire Station 310a location in comparison to the applicable N.F.P.A. 1720 Suburban Demand Zone performance benchmarks for the planned future Mayfield West Rural Service Centre.

Stations and Staffing	
Station 307 (Valleywood)	Squad - 3FF Pumper - 2FF Tanker - 3FF
Station 310b	Squad - 4FF

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	100%	100%
>=4	78.9%	99.4%
>=8	28.0%	37.2%
>=10	0%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard (10 Firefighters in 10 Minutes, 80% of the Time)
Future Scenario 2b, Add Station 310b
Mayfield West
Day Staffing (Monday to Friday 7am - 6pm)
FIGURE 38

- Proposed Fire Station 310b
- Fire Station
- Historic Call (2014 - 2019)
- Future Road
- Mayfield West Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time +Travel Time)

- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

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MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

MAP CREATED BY: SMB
MAP CHECKED BY: SLC
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Mayfield West Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (All Other Times)

Table 53 indicates that at all other times including evenings and weekends the C.F.E.S. is predicted to be able to deploy four volunteer firefighters to 99.4% of the historical fire related incidents, and 74.6% of the planned future road network, and eight volunteer firefighters to 41.5% of the historical fire related incidents, and 34.8% of the planned future road network in the future Mayfield West Rural Service Centre area.

In comparison to the applicable N.F.P.A. fire suppression performance benchmark of deploying ten firefighters to arrive on scene within a ten minute response time (turn-out time + travel time) to 80% of the fire related incidents this scenario indicates that the C.F.E.S. is predicted to be able to achieve a deployment of ten firefighters to 5.0% of the historical fire related incidents, and 4.0% of the future road network in the proposed future Mayfield West Rural Service Centre area.

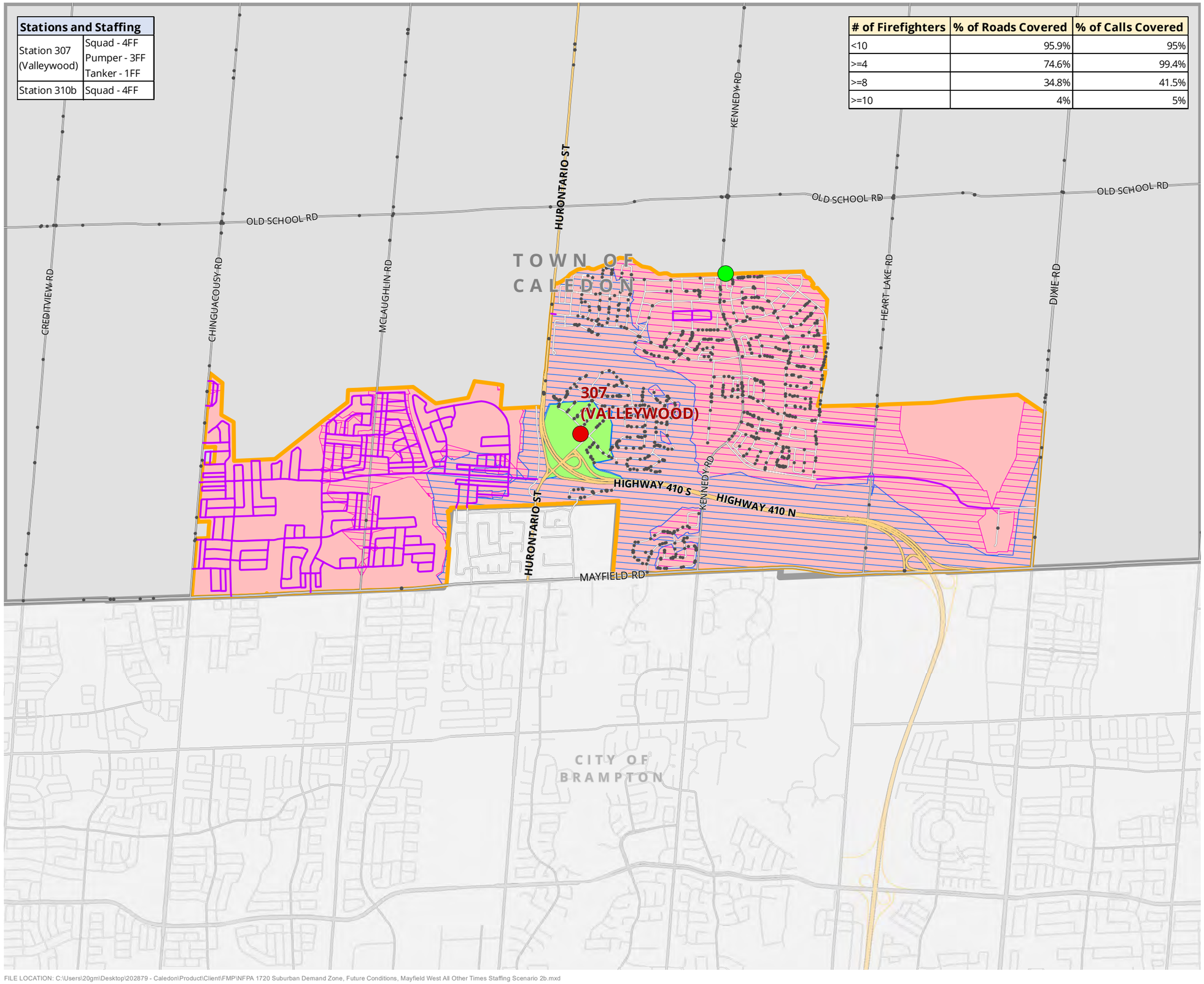
Table 53: Proposed Fire Station 310b Location - Mayfield West Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (All Other Times)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	4.0%	5.0%
Future Conditions (8 FF in 10 Min.)	34.8%	41.5%
Future Conditions (4 FF in 10 Min.)	74.6%	99.4%

Figure 39 illustrates the areas within the Mayfield West Rural Service Centre where the C.F.E.S. is predicted to be able to provide a portion of the targeted performance deployment benchmark of ten firefighters arriving on scene within a ten minute response time (turn-out time + travel time) at all other times including evenings and weekends.

Stations and Staffing	
Station 307 (Valleywood)	Squad - 4FF Pumper - 3FF Tanker - 1FF
Station 310b	Squad - 4FF

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	95.9%	95%
>=4	74.6%	99.4%
>=8	34.8%	41.5%
>=10	4%	5%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard (10 Firefighters in 10 Minutes, 80% of the Time)
Future Scenario 2b, Add Station 310b
Mayfield West
All Other Times Staffing
FIGURE 39

- Proposed Fire Station 310b
- Fire Station
- Historic Call (2014 - 2019)
- Future Road
- Mayfield West Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time +Travel Time)

- More Than 10 Firefighters
- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

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MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

MAP CREATED BY: SMB
MAP CHECKED BY: SLC
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8.8.4.3 Proposed Fire Station 310 Location Summary

Table 54 presents a summary of the two proposed Fire Station 310 locations for Monday to Friday Daytime. While there is little difference in the ability of either site to meet the N.F.P.A. fire suppression performance benchmark of deploying ten firefighters to arrive on scene within a ten minute response time (turn-out time + travel time), the proposed location 310b at Kennedy Road and Bonnieglen Farm Boulevard is slightly preferred for both calls covered and roads covered with eight firefighters in 10 minutes. It is also slightly preferred for coverage of four firefighters in 10 minutes of travel time.

Table 54: Proposed Fire Station 310a and 310b Comparison (Monday through Friday Daytime)

Monday through Friday Daytime	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)			
	Proposed Location 310a		Proposed Location 310b	
	% of Suburban Roads Covered	% of Suburban Calls Covered	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	0%	0%	0%	0%
Future Conditions (8 FF in 10 Min.)	27.2%	33.7%	28.0%	37.2%
Future Conditions (4 FF in 10 Min.)	65.8%	99.5%	78.9%	99.4%

Table 55 presents a summary of the two proposed Fire Station 310 locations for all other times. While there is little difference in the ability of either site to meet the N.F.P.A. fire suppression performance benchmark of deploying ten firefighters to arrive on scene within a ten minute response time (turn-out time + travel time), the proposed location 310b at Kennedy Road and Bonnieglen Farm Boulevard. is slightly preferred for

both calls covered and roads covered with eight firefighters in 10 minutes. It is also slightly preferred for coverage of four firefighters in 10 minutes of travel time

Table 55: Proposed Fire Station 310a and 310b Comparison (All Other Times)

Monday through Friday Daytime	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)			
	Proposed Location 310a		Proposed Location 310b	
	% of Suburban Roads Covered	% of Suburban Calls Covered	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	4.1%	5.0%	4.0%	5.0%
Future Conditions (8 FF in 10 Min.)	33.5%	36.2%	34.8%	41.5%
Future Conditions (4 FF in 10 Min.)	65.2%	99.5%	74.6%	99.4%

8.8.5 Proposed Fire Station 311

The Town's current 2019-2028 capital project plan also includes funding for an 11th fire station in 2027/2028 with a planned opening in 2029. Based on our review of the C.F.E.S. existing fire suppression services and the Towns planned community growth this 11th fire station should be planned for development/implementation in the Bolton West Rural Service area. At the time of preparing this F.M.P. there is insufficient planning information, and specifically a future defined road network for the future proposed development in the Bolton West Rural Service area to definitely identify the preferred location for this fire station. As a result, this F.M.P. has utilized the location identified with the 2018 F.M.P. as the preliminary location for the Towns proposed 11th fire station. This location was in the area of Humber Station Road and Healey Road.

In our view this proposed Station 311 should be planned for a staff resource model that is consistent with the proposed new Fire Station 310. This should include hiring a

complement of twenty full-time firefighters and a complement of 15 to 20 additional volunteer firefighters. This would support a 24/7 deployment model of a minimum of four full-time firefighters staffing a Quint with the support of volunteer firefighters staffing an additional pumper tanker.

Our analysis of this fire station location and predicted fire suppression deployment capabilities of the C.F.E.S. also includes sustaining the current operational capabilities of Station 302 (Bolton) as currently operated by the combination of full-time and volunteer firefighters.

Bolton West Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

The analysis presented within **Table 56** indicates that with the development/implementation of the proposed 11th fire station at this location the predicted fire suppression capabilities of the C.F.E.S. would be to deploy four firefighters to arrive on scene within a ten minute response time (turnout time + travel time) to 98.9% of the historical fire related incidents and 98.8% of the future road network. The C.F.E.S. would also be able to deploy eight firefighters to arrive on scene within a ten minute response time (turnout time + travel time) to 70.9% of the historical fire related incidents and 68.5% of the future road network.

In comparison to the applicable N.F.P.A. fire suppression performance benchmark of deploying ten firefighters to arrive on scene within a ten minute response time (turn-out time + travel time) to 80% of the fire related incidents, this scenario indicates that the C.F.E.S. is not predicted to be able to achieve a deployment of ten firefighters to 0 the historical fire related incidents or the future road network in the proposed future Bolton West Rural Service Centre area.

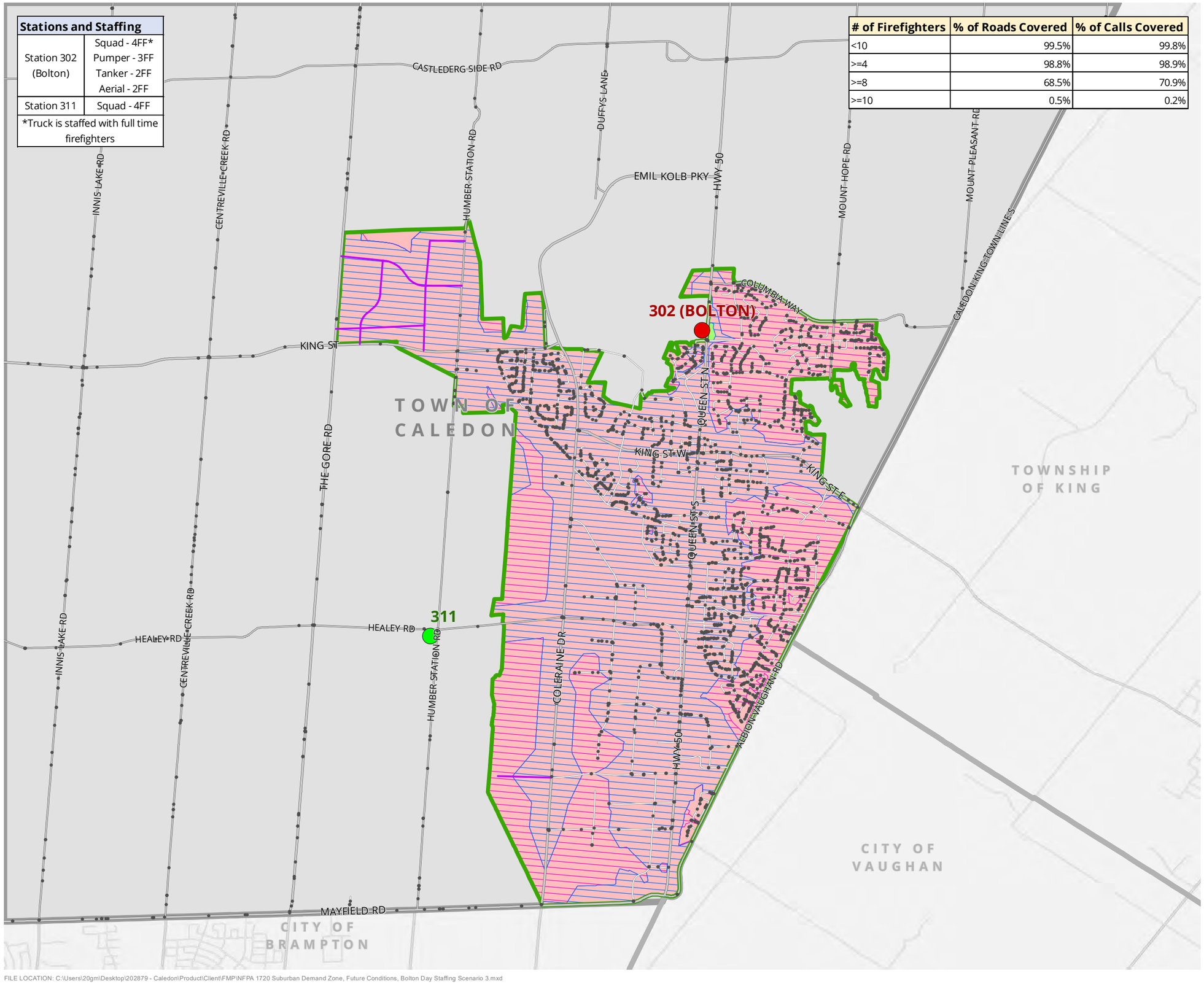
Table 56: Proposed Fire Station 311 Location – Bolton West Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (Monday through Friday Daytime)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	0.5%	0.2%
Future Conditions (8 FF in 10 Min.)	68.5%	70.9%
Future Conditions (4 FF in 10 Min.)	98.8%	98.9%

Figure 40 illustrates the G.I.S. modelled analysis of the predicted C.F.E.S. fire suppression deployment capabilities with the addition of the proposed 11th Fire Station 311 location in comparison to the applicable N.F.P.A. 1720 Suburban Demand Zone performance benchmarks for the planned future Bolton West Rural Service Centre.

Stations and Staffing	
Station 302 (Bolton)	Squad - 4FF* Pumper - 3FF Tanker - 2FF Aerial - 2FF
Station 311	Squad - 4FF
*Truck is staffed with full time firefighters	

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	99.5%	99.8%
>=4	98.8%	98.9%
>=8	68.5%	70.9%
>=10	0.5%	0.2%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard
(10 Firefighters in 10 Minutes, 80% of the Time)
Future Conditions Scenario 3
Add Station 311
Bolton
Day Staffing (Monday to Friday 7am - 6pm)
FIGURE 40

- Proposed Fire Station
- Fire Station
- Historic Call (2014 - 2019)
- Future Road
- Bolton Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time + Travel Time)

- 10 or More Firefighters
- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

1:40,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-03

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Suburban Demand Zone, Future Conditions, Bolton Day Staffing Scenario 3.mxd

Bolton West Rural Service Centre - N.F.P.A. Suburban Demand Zone Performance Benchmark (All Other Times)

Table 57 indicates that at all other times including evenings and weekends the C.F.E.S. is predicted to be able to deploy four volunteer firefighters to 97.1% of the historical fire related incidents, and 97.8% of the planned future road network, and eight volunteer firefighters to 67.5% of the historical fire related incidents, and 64.0% of the planned future road network in the future Bolton West Rural Service Centre area.

In comparison to the applicable N.F.P.A. fire suppression performance benchmark of deploying ten firefighters to arrive on scene within a ten minute response time (turn-out time + travel time) to 80% of the fire related incidents this scenario indicates that the C.F.E.S. is not predicted to be able to achieve a deployment of ten firefighters to the historical fire related incidents or the future road network in the proposed future Bolton West Rural Service Centre area.

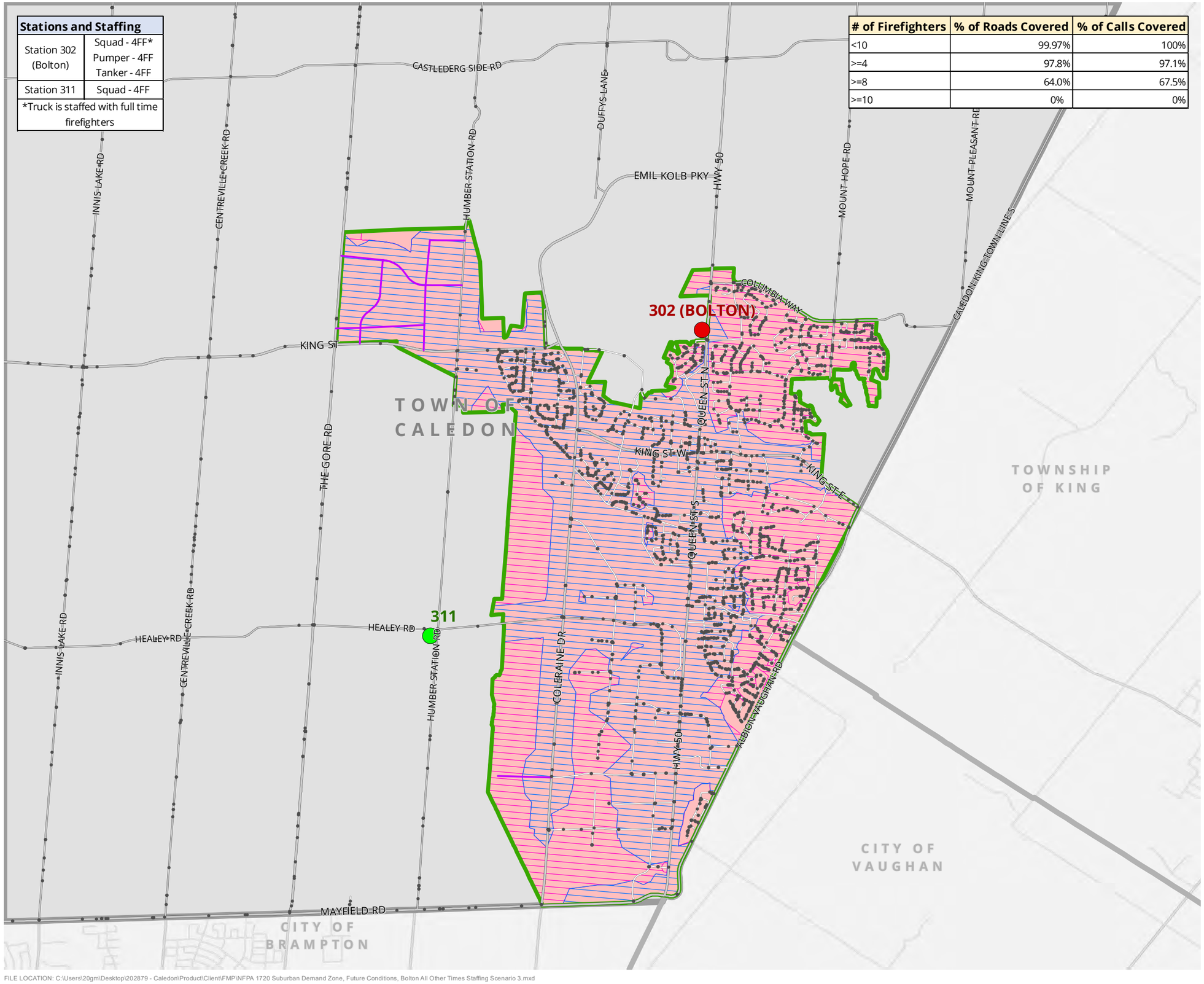
Table 57: Proposed Fire Station 311 Location – Bolton West Rural Service Centre - N.F.P.A. 1720 Suburban Demand Zone Performance Benchmark (All Other Times)

Scenario	N.F.P.A. 1720 Suburban Demand Zone Standard (ten firefighters arriving within a ten minute response time)	
	% of Suburban Roads Covered	% of Suburban Calls Covered
Future Conditions (10 FF in 10 Min.)	0%	0%
Future Conditions (8 FF in 10 Min.)	64.0%	67.5%
Future Conditions (4 FF in 10 Min.)	97.8%	97.1%

Figure 41 illustrates the G.I.S. modelled analysis of the predicted C.F.E.S. fire suppression deployment capabilities with the addition of the proposed 11th Fire Station 311 location in comparison to the applicable N.F.P.A. 1720 Suburban Demand Zone performance benchmarks for the planned future Bolton West Rural Service Centre.

Stations and Staffing	
Station 302 (Bolton)	Squad - 4FF* Pumper - 4FF Tanker - 4FF
Station 311	Squad - 4FF
*Truck is staffed with full time firefighters	

# of Firefighters	% of Roads Covered	% of Calls Covered
<10	99.97%	100%
>=4	97.8%	97.1%
>=8	64.0%	67.5%
>=10	0%	0%



TOWN OF CALEDON

TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Suburban Demand Zone Standard
(10 Firefighters in 10 Minutes, 80% of the Time)
Future Conditions Scenario 3
Add Station 311
Bolton
All Other Times Staffing
FIGURE 41

- Proposed Fire Station
- Fire Station
- Historic Call (2014 - 2019)
- Future Road
- Bolton Future Service Area

Number of Staff On-Scene in a 10 minute Response Time (Turnout Time + Travel Time)

- 10 or More Firefighters
- Less Than 10 Firefighters
- 8 or More Firefighters
- 4 or More Firefighters

Deployment and turnout times are informed by the 2014-2019 call data. For more information please see Section XX of the Fire Master Plan.

1:40,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

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PROJECT: 163434
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8.9 Proposed Incremental Full-time Firefighter Staffing Strategy

The previous sections of this F.M.P. identify the development/implementation of two additional fire stations within the next 10-year community planning horizon. At this time the Town has identified a capital financing strategy and schedule to purchase the required land and construct these two additional fire stations. The previous sections of this F.M.P. have identified the proposed staff resource strategy for these fire stations that include a complement of 20 full-time firefighters and 15 to 20 volunteer firefighters to be assigned to each of these fire stations.

In our view the Town should be prioritizing the development of a companion financial plan to accommodate the future operating budget costs associated with the significant financial impact associated with hiring the 40 proposed full-time firefighters to staff these two additional fire stations over the next 10-year community planning horizon.

Based on our analysis of the C.F.E.S. existing fire suppression capabilities the proposed financial plan should consider prioritizing an incremental increase in the number of full-time firefighters within the C.F.E.S. as soon as it can be fiscally accommodated within the Towns current operating budget capacity. In our view beginning the incremental hiring of additional full-time firefighters in the short-term would provide the opportunity to further enhance the existing fire suppression capabilities of the C.F.E.S. while preparing for the proposed full-time staffing of the proposed Fire Stations 310 and 311.

In our view this incremental hiring process should consider the hiring of a sufficient number of full-time firefighters in the short-term to staff the existing pumper rescue at Station 307 (Valleywood) from Monday through Friday daytime. This would provide a further fire suppression capability associated with full-time firefighters to respond to the existing Mayfield West Rural Service Centre area as well as providing additional full-time firefighter capabilities across the entire Town. Once in place this staffing model could be incrementally increased on an annual basis through the hiring of additional full-time firefighters and incrementally increasing the fire suppression capabilities of the C.F.E.S. from the current Fire Station 307 (Valleywood). Once the proposed Fire Station 310 is constructed and is ready for operation this complement of full-time firefighters could then be redeployed to the new Fire Station 310.

Once completed the proposed incremental additional full-time firefighter staffing model for Fire Station 310 could then be applied to the proposed Fire Station 311 by applying a similar incremental staffing model at the existing Fire Station 302 (Bolton) with the objective of proactively preparing for the future staffing of the proposed Fire Station 311.

In our view the proposed incremental full-time firefighter staffing strategy should prioritise the development of an associated financial plan that recognises the current operating budget limitations and capabilities of the Town of Caledon. In developing the proposed financial plan and full-time firefighter staffing strategy consideration should also be given to further confirmation of the predicted community growth assumptions and schedule, particularly given the current COVID 19 pandemic and uncertainties related to future municipal operating budget implications. Where possible the proposed incremental full-time firefighter staffing strategy and financial plan should include the hiring of a minimum of four full-time firefighters, and preferably five full-time firefighters at a time. This strategy recognises the operational impacts of maintaining a complement of four full-time firefighters on duty to staff the assigned apparatus.

Council Recommendation #13: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to developing a financial plan and associated staffing strategy to hire the additional full-time firefighters that will be required to staff the proposed new Fire Station 310 and 311 as referenced in the proposed Fire Master Plan.

8.10 Proposed Enhanced Utilization of Automatic Aid Agreements

The Town of Caledon currently has an automatic aid agreement with the Town of Mono that includes the Town providing fire suppression services, but not receiving any reciprocal fire suppression services. In our experience, the use of automatic aid agreements is an effective tool for municipalities to work collaboratively in supplementing the core fire suppression services they each provide. For the Town of Caledon the option of considering further utilization of automatic aid agreements should be considered.

In developing this F.M.P. consideration was given to the potential fire suppression response coverage that could be achieved through automatic aid agreements with surrounding municipalities. The automatic aid considerations utilized the turnout times from comparison department types. Research indicates that fire departments utilizing

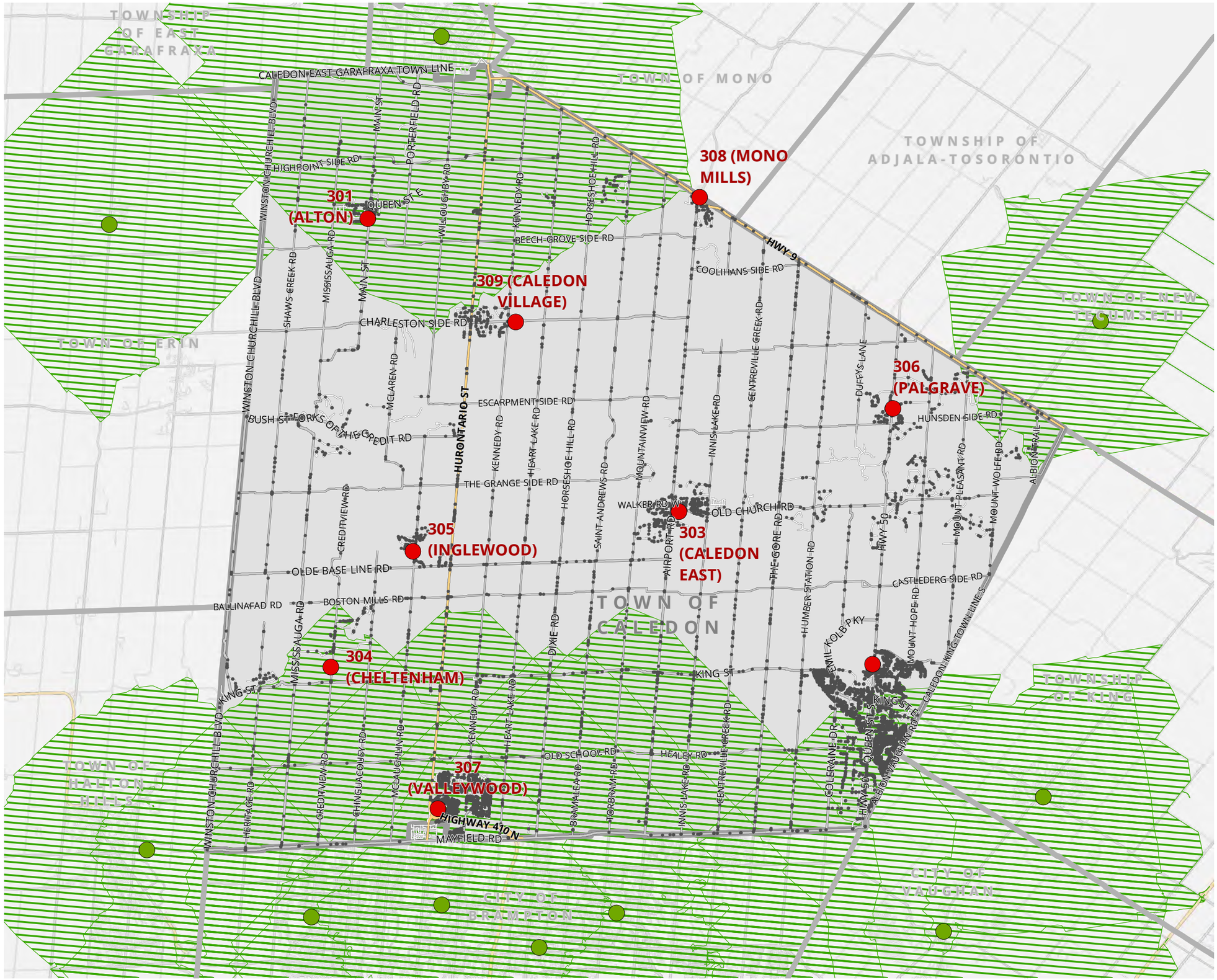
solely volunteer firefighters achieve a turnout time of approximately 6 minutes 30 seconds for the 1st responding apparatus with four firefighters. Fire departments utilizing only full-time firefighters achieve a turnout time of approximately 2 minutes 6 seconds for the 1st responding apparatus staffed with four firefighters. Composite fire departments utilizing a combination of volunteer and full-time firefighters were assumed to have a 2 minutes 21 seconds turnout time of the 1st responding apparatus with four firefighters.

Results of the turnout time analysis assuming an estimated travel speed of 60 kilometers per hour indicate that the 1st apparatus staffed with four firefighters responding from stations staffed solely with full-time firefighters were able to travel 11.9 kilometers, full-time firefighters from composite stations were able to travel 11.65 kilometers, and volunteer firefighters were able to travel 7.5 kilometers. The response considerations relating to automatic aid from the surrounding stations are shown in **Figure 42.**

This analysis indicates that an automatic aid agreement with the Orangeville Fire Department could potentially improve the C.F.E.S. fire suppression coverage immediately south of the Orangeville boundary (south of Highway 9 and Hurontario Street). An automatic aid agreement with Brampton Fire and Emergency Services could potentially improve the C.F.E.S. existing fire suppression coverage along the Mayfield Road boundary. The fire suppression automatic aid potential from the other neighbouring stations are not predicated to be significantly beneficial to improving overall service within the Town of Caledon.

Automatic aid agreements can be either reciprocal or based on a fee for service contract. Therefore, there may be some level of financial impact recognized by implementing agreements with neighbouring departments. These fees typically reflect cost recovery rates considered to be fair and reasonable within the local industry. The financial impact of a pay-per-use service would be considerably less than the capital and operating costs of adding equivalent resources within the Town and to the C.F.E.S.

Council Recommendation #14: That subject to Council's consideration and approval of the proposed Fire Master Plan, the Caledon Fire and Emergency Services further investigate the development and implementation of automatic aid agreements with surrounding communities.



TOWN OF CALEDON
FIRE MASTER PLAN

NFPA 1720 Rural Demand Zone Standard Automatic Aid
FIGURE 42

- Fire Station
- Surrounding Municipality Fire
- Historic Call (2014 - 2019)
- Predicted Automatic Aid

1:140,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY TOWN OF CALEDON

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

DILLON CONSULTING

PROJECT: 163434
STATUS: DRAFT
DATE: 2020-11-02

FILE LOCATION: C:\Users\20gm\Desktop\202879 - Caledon\Product\Client\FMP\NFPA 1720 Automatic Aid.mxd

8.11 Fire Suppression Division Summary and Recommendations

Our analysis of the existing fire suppression services provided by the C.F.E.S. confirm the historical efficiency and commitment that has been given to sustaining the historical volunteer firefighter operating model. Our analysis highlights the Towns current transition to a composite, or combination fire department operating model that includes both volunteer and full-time firefighters. In our view this transition is a necessary strategy in recognition of the work/life balance of volunteer firefighters and the increasing growth of the community and the associated fire related risks as identified by the companion Community Risk Assessment.

The proposed enhanced fire suppression strategies and scenarios are presented to provide Council with a range of options to further enhance the existing fire suppression capabilities of the C.F.E.S. in comparison to the proposed N.F.P.A. 1720 Rural and Suburban Demand Zone performance benchmarks. These strategies and scenarios are also intended to support Council's future community planning goals and objectives. In our view it is Council's role to assess this analysis in finding the appropriate balance that responds to the local needs and circumstances of the community as defined by the F.P.P.A.

In the decision making process to consider the scenarios for improving the fire suppression capabilities of the Caledon Fire and Emergency Services, consideration should also be given to the role of the community in fire safety. The level of human behaviour and awareness with respect to fire safety plays a key part in having an effective and efficient level of fire protection services. These factors further support the importance of public fire safety education and fire prevention in providing the most efficient and effective level of fire protection services that provide the community with the most value.

This F.M.P. presents a number of recommendations to optimize the department's fire suppression services determined through comparison with identified municipal best practices and the Town's legislative requirements. It is recommended that subject to Council's consideration and approval of the proposed Fire Master Plan, that the Caledon Fire and Emergency Services implement the following recommendations in support of achieving the strategic priorities of this F.M.P.:

Council Recommendations:

5. **That the Town of Caledon should strive to achieve a fire suppression deployment benchmark including a minimum of six firefighters responding within a 14 minute response time (turnout time + travel time) to 80% of the fire related incidents within the entire municipality.**
6. **That the Town of Caledon should be striving to achieve a fire suppression deployment benchmark including a minimum of ten firefighters responding within a ten minute response time (turnout time + travel time) to 80% of the fire related incidents within the defined Mayfield West Rural Service Centre.**
7. **That the Town of Caledon should be striving to achieve a fire suppression deployment benchmark including a minimum of ten firefighters responding within a ten minute response time (turnout time + travel time) to 80% of the fire related incidents within the defined Bolton Rural Service Centre.**
8. **That the Town of Caledon hire the proposed full-time Assistant Deputy Fire Chief.**
9. **That the Caledon Fire and Emergency Services continue to strive towards utilization of the proposed volunteer firefighter turnout time benchmarks.**
10. **That the Fire Chief be given the authority to increase the total complement of volunteer firefighters at existing stations by up to a maximum of 10% of the existing Council approved total complement of 280 volunteer firefighters.**
11. **That consideration be given to further enhancing the current Volunteer Firefighter recruitment and retention program.**
12. **That consideration be given to implementing the proposed Volunteer Firefighter Remuneration Program.**
13. **That subject consideration be given to developing a financial plan and associated staffing strategy to hire the additional full-time firefighters that will be required to staff the proposed new Fire Station 310 and 311 as referenced in the proposed Fire Master Plan.**

14. **That the Caledon Fire and Emergency Services further investigate the development and implementation of automatic aid agreements with surrounding communities.**

9.0 Training Division

The C.F.E.S. Training Division oversees the training of all personnel to ensure that the legislated requirements of the F.P.P.A. and the O.H.S.A. are being met. Within the Province of Ontario, firefighter training is topic that has come under a high level of scrutiny over the past decade. The results of numerous inquests and investigations have concluded that firefighter training must be considered a priority for municipalities, in their role as employer, as fire service leaders, and as supervisors. The analysis within this section focuses on the delivery of training to the fire suppression division staff.

The analysis within this section first presents a discussion around training standards and the options available to fire departments in Ontario. This is followed by a discussion of training standards, processes, programs, and resources currently in place in regards to training. This includes: division organization and staffing, annual training program, specialized rescue training programs, company officer training, training facilities, and records management. Where gaps are identified in achieving compliance with industry best practices and legislated requirements, further strategies and recommendations are provided for consideration.

This fire master planning process highlights the relevance of assessing community fire risk as a component of determining the appropriate level of fire protection services to be provided. The information and analysis within this section will present the importance of linking the applicable training requirements of the C.F.E.S., including both full-time and volunteer firefighters with the level of fire suppression services to be provided by the C. F.E.S.

9.1 Training Standards in Ontario

As referenced previously within this F.M.P., in April 2013, the O.F.M.E.M. announced that the Ontario fire service would be adopting the National Fire Protection Association Professional Qualifications (N.F.P.A. Pro-Qual) Standards. In January of 2014, the O.F.M.E.M. distributed Communique 2014 – 04 to the Ontario fire service, outlining the grandfathering and transition process to the use of the N.F.P.A. Professional Qualifications Standards. A "**Grandfathering Policy**" was integrated into the transition to the N.F.P.A. Pro-Qual Standards process "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".

In May 2018, the Ministry of Community Safety and Correctional Services (M.C.S.C.S.) (now the Ministry of the Solicitor General) adopted **Ontario Regulation 379/18 – Firefighter Certification** under the F.P.P.A. requiring every fire department to complete mandatory certification of fire service personnel involved in fire suppression. This regulation included personnel with required to perform roles involving technical rescue services, communications (fire dispatch), fire prevention, public education and training. On October 5, 2018 the regulation was revoked.

The revoked **Ontario Regulation 379/18 – Firefighter Certification** reflected the recommendations of an inquest involving two fatal fires in Whitby and East Gwillimbury. On April 29th, 2016 the verdict of that inquest recommended to the Ministry "to make a Regulation, pursuant to clause 78(1)9k) of the F.P.P.A., requiring mandatory certification and training, to recognized industry standards, for all personnel (as defined in the F.P.P.A.) whose primary job function is to perform: 1) fire inspections, 2) public education, and/or 3) communications (call-taking/dispatch)".

The required training and qualifications that were identified within **Ontario Regulation 379/18 – Firefighter Certification** are consistent with those included within the N.F.P.A. Pro-Qual Standards. As such, fire services across the Province are continuing to transition to the use of the N.F.P.A. Pro-Qual Standards, recognizing that this is not mandatory, and does not require certification as required by **the Ontario Regulation 379/18 – Firefighter Certification**. Use of the N.F.P.A. Pro-Qual Standards referenced in **Table 58** remain the current industry best practices in Ontario.

Table 58: Concordance of Ontario and N.F.P.A. Standards

Previous Ontario Standard	New N.F.P.A. Standard
Ontario Firefighter Curriculum	N.F.P.A. 1001 Standard – Level I and Level II
Company Officer Diploma Program	N.F.P.A. 1021 Standard – Level II
Fire Prevention Officer Diploma Program	N.F.P.A. 1031 Standard – Fire Inspector Level I
Training Officer Diploma Program	N.F.P.A. 1041 Standard – Fire Instructor Level II

Source N.F.P.A

To provide the training to attain the qualifications identified within these standards, there are several options available to departments including: Ontario Fire College (O.F.C.) and Regional Training Centres (R.T.C.s); outside or third party training; in-house training; and out of province training opportunities as outlined below.

9.1.1 Ontario Fire College and Regional Training Centres

One option is to enroll staff in training courses at the Ontario Fire College (O.F.C.). The O.F.C. is operated by the O.F.M.E.M. under the authority of the Ministry of the Solicitor General. Courses are scheduled on an annual basis and offered at the O.F.C. in Gravenhurst and various Regional Training Centres (R.T.C.) across the province. Course fees are affordable, but given high levels of interest by all of the fire departments in Ontario, it can be challenging to enroll more than a few candidates in each program. This poses challenges for departments requiring training for a large number of candidates. This issue is further compounded as wait lists at the O.F.C. have increased for a variety of reasons in recent years. Courses generally run Monday to Friday, making overtime, travel costs and backfilling position requirements a notable budgetary consideration.

9.1.2 External or Third Party Training Organizations

The C.F.E.S. should also consider the use of retaining subject matter experts to provide training related to a particular N.F.P.A. standard, or specific training related to other department activities such as the use of computer software. Because this training can be offered locally, there is greater scheduling flexibility, reducing overtime and eliminating travel costs.

Research indicates that municipalities should consider their due diligence in utilizing external organizations or individuals to provide training. There have been several inquests within the province over the past decade involving external or third party training providers. Recommendations from these inquests have identified the need for provincially regulated training qualifications and certification of external and third party organizations.

9.1.3 In-House Training

The C.F.E.S. should also consider the further training and qualification of its own instructing staff to an N.F.P.A. standard and then have this staff resource deliver the training in-house. Curriculum development and the work associated with staying current with the standards is time consuming and staff intensive, requiring a level of expertise that may not be available within a fire department. However, the in-house option does provide opportunity for training to incorporate department specific considerations (e.g. O.G.s, community risks, etc.) as well as greater flexibility with respect to scheduling, reducing the need for overtime, backfilling and eliminating travel time.

Currently, the O.F.C. is approving learning contracts whereby fire services may train using O.F.C. course materials, which provides the benefit of certification ready courses without the cost of course development by the fire service and approval by the O.F.M.E.M.

9.1.4 Out of Province Training

Out of province learning opportunities provide an additional training option. While travel costs may make this option cost prohibitive, there are some courses that are not yet offered in Ontario (e.g., N.F.P.A. 1031 Level III, Plans Examiner I and II, N.F.P.A. 1035 Fire and Life Safety Educator, Level III, and N.F.P.A. 1041 Fire Instructor, Level III) that may be beneficial for staff.

9.1.5 Certification

The N.F.P.A. standards are intended to identify the required training for an individual to attain a recognized qualification related to a specific positions roles and responsibilities within the fire service. It is important for departments to note the distinction between “qualifications” and “certifications”. The N.F.P.A. training standards and related qualification **do not consider or require** certification.

Certification is completed by third party organizations such as the International Fire Service Accreditation Congress (I.F.S.A.C.) or the Fire Service Professional Qualifications System (Pro-Board) which provide independent evaluation to measure individual performance as set by the standards. In Ontario, the legislation that requires an employer to train its staff is the Occupational Health and Safety Act.

Once qualification is obtained using one of options outlined in the sections above, the fire department may want to consider certification of their training curriculum. In circumstances where certification is desired, the curriculum must be approved by the O.F.M.E.M.'s Academic Standards and Evaluation (A.S. & E.) section. Curriculum that has been approved by the A.S. & E can then be used repeatedly to train firefighters in the same or other jurisdictions within the province. In Ontario, a fire department can contact the O.F.M.E.M. to schedule a certification evaluation to a particular N.F.P.A. standard. The certification process is then governed by I.F.S.A.C. and Pro-Board with the O.F.M.E.M. as the certifying organization in Ontario.

Some jurisdictions view the certification process as a method of evaluating and monitoring the effectiveness of internal training as well as to confirm the competency and proficiency of training participants.

In many cases, successful qualification to an N.F.P.A. standard for the knowledge portion requires a 60% score and the ability to satisfactorily demonstrate skills described in the standard. For certification, the knowledge score requirement is typically 70%, making it a more stringent evaluation of training and skills development. Determining the type of training or standards to be used and whether to qualify or certify staff are all considerations for the fire department.

In summary, fire services in Ontario have multiple ways to train and qualify staff, with certification regulated by the Province. It is important to note that while at this point in time neither qualification nor certification are required by legislation, recent inquests involving issues with fire prevention and firefighter training have highlighted the importance of qualification and certification as industry best practices. Revoked **Ontario Regulation 379/18 – Firefighter Certification** required training and certification for certain positions within a fire department. Although this regulation was recently passed then repealed, our review of current municipal best practices indicates that there is value to ensuring fire department staff are trained to a level of competency for the tasks they perform.

9.2 Existing Training Division Staff Resources

The support services section Deputy Fire Chief is directly responsible for the Training Division that includes three full-time Training Officers (T.O.). In addition to being assigned a specific geographical command area, each of the T.O. is also assigned responsibilities for core elements of the department's training program.

In addition to the full-time T.O., full-time and volunteer firefighter suppression staff play a key role in facilitating the delivery of the firefighter training program. Within C.F.E.S., these roles include 45 full-time firefighters who are qualified training instructors, 9 volunteer training officers and 9 volunteer assistant training officers. The department also utilizes a formal Training Committee, chaired by the Deputy Chief – Support Services, to assist in the development, coordination and delivery of the training program.

9.2.1 Training Officers (Full-time)

The three full-time T.O. are each assigned the responsibility for a geographical command area, namely: the northwest, southwest and east commands. The T.O. are directly responsible for organizing and coordinating the delivery of the department's training program to their assigned command areas, including the development, direction and support of volunteer station training officers, training instructors and full-time officers. This distribution of responsibilities has proven to be an effective model for coordinating the delivery of training to the department's nine fire stations. **Table 59** illustrates the three command areas.

Table 59: C.F.E.S. Command Areas

Northwest Command	Southeast Command	East Command
Sta. 301 - Alton	Sta. 304 - Cheltenham	Sta. 302 - Bolton
Sta. 308 – Mono Mills	Sta. 305 - Inglewood	Sta. 303 – Caledon East
Sta. -309 - Caledon Village	Sta. 307 - Valleywood	Sta. 306 - Palgrave

Source C.F.E.S.

In addition to having the responsibility to coordinate the delivery of the department's training program to an assigned command area, each of the full-time T.O. are also assigned specific areas of the department's training program for all fire suppression staff (Town wide), as illustrated in **Table 60**.

Table 60: C.F.E.S. Training Officer Assigned Training Areas

Training Officer 'A'	Training Officer 'B'	Training Officer 'C'
Training Committee	Officer Development	Academic Standards
Medical Program	New Apparatus Training	Equipment Maintenance
Volunteer Recruitment	Pumper Operations	Aerial Operations
Training Instructor Cadre	Firefighter Survival & R.I.T.	Water Rescue
Driver Training	Fire Fleet Services	Promotional/Class Exams
Rope Rescue	Auto Extrication	Hazardous Materials
Communications/ Radios		S.C.B.A. Air Management

Source C.F.E.S.

9.2.2 Station Training Officers (Volunteer)

The volunteer Station Training Officers (S.T.O.) and volunteer Assistant Training Officers (A.T.O.) are responsible for delivering and administering the training programs at their assigned stations. There are currently nine volunteer Station Training Officers and nine volunteer Assistant Station Training Officers. Station 302 (Bolton) has four volunteer A.T.O. due to the higher complement of volunteers assigned to this station.

Our research indicates that the current job descriptions for these positions do not accurately reflect the organization of the division or identify the required competencies, certifications, or training qualifications for these position. Currently the level of professional qualifications across the station training resources varies. The current job descriptions also do not reflect the importance of implementing a comprehensive annual training program. In our experience the result can be inconsistencies in the current training program.

9.2.3 Company Officers (Volunteer & Full-Time)

Collectively, C.F.E.S. Company Officers, including the Volunteer District Chiefs, Volunteer Assistant District Chiefs, and volunteer and full-time Captains, share the responsibility to ensure that all staff under their direction (supervision) are trained and qualified to complete the tasks that they may be assigned. The department's current Comprehensive Annual Training Program relies upon these Company Officers to facilitate the delivery of training programs that are developed and provided by the Training Division.

9.2.4 Training Cadres

The Training Cadres (T.C.) are specific areas of training requiring specialized instruction or trainers in particular areas. There are presently five training cadres in place which operate under the direction, supervision, and lead instruction of one of the full-time Training Officers. The Training Cadres are designed to oversee specific disciplines of the departments training program.

Training cadres programs have been established to provide training for: compartmentalized fire behaviour training, pumper operations, recruit training, and forcible entry training. **Table 61** highlights the five current training cadres, and the number of Training Instructors that currently delivering the cadre program. There are not job descriptions available for these training cadre-based training roles.

Table 61: Caledon Training Cadres

Cadre	Role	# of Training Instructors
Emergency Medical Response	• Initial recruit medical training and recertification every 3 years	11
Compartmentalized Fire Behaviour	• New recruit fire behaviour training • Prior to live fire training in accordance with N.F.P.A. 1403	6
Pumper Operations	• Pumper operation training	6
Recruit Training	• N.F.P.A. Instructor, I.N.F.P.A. Instructor II	11
Forcible Entry	• Refresher program, Advanced program	11

Source C.F.E.S.

9.2.5 Training Committee

Establishing a training committee within a fire department can help utilize department resources and prioritize training goals. The use of staff committees representing a wide range of skills, competencies, experience and authority is a recognized industry best practice. Of importance to this strategy is the development of clear terms of reference to ensure the mandate of the committee is clear.

As recommended by the 2018 F.M.P. the C.F.E.S. has established a Training Committee that is chaired by the Deputy Chief – Support Services. This committee includes representation of the staff resources assigned to develop, deliver and monitor the department's comprehensive annual training program. Unfortunately the current COVID-19 pandemic has had a negative impact on the planned 2020 training initiatives within the department and the intended objectives of the newly formed Training Committee.

9.3 Training Staff Qualifications

The C.F.E.S. was successful in utilizing the O.F.M.E.M. 'Grandfathering Policy' to attain confirmation of qualifications for a number of department staff. This included receiving letters of compliance for some fire department personnel who were deemed to be qualified to N.F.P.A. 1041 Fire Service Instructor, N.F.P.A. 1021 Fire Officer, N.F.P.A. 1031 Fire Inspector, and N.F.P.A. 1001 Firefighter standards.

Our review of the N.F.P.A.1041 Fire Service Instructor standard indicates that at a minimum any member of the C.F.E.S. who is assigned to provide training instruction, should be qualified to the N.F.P.A. 1041 Level I. Higher levels of qualifications are required for those staff assigned with responsibilities such as developing lessons plans, scheduling, supervision and record keeping.

Industry best practices indicate that an instructor should have successfully completed the N.F.P.A. training and level for a given standard in addition to the equivalent instructor qualification. For example, for a trainer to be qualified to deliver N.F.P.A. 1001 Level I training, they will have successfully completed N.F.P.A. 1001 Level I and N.F.P.A. 1041 Level I training. For a trainer to be qualified to deliver N.F.P.A. 1001 Level II training, they will have successfully completed N.F.P.A. 1001 Level II and N.F.P.A. 1041 Level II training.

Table 62 summarizes the proposed **N.F.P.A. 1041 Standard for Fire Service Instructor Professional Qualifications** that should be required for all staff assigned to developing, delivering and overseeing the department's comprehensive training program.

Table 62: Proposed Training Staff Qualifications

N.F.P.A. 1041 Qualification	C.F.E.S. Staff Resources
Instructor Level I	It is recommended that all staff resources assigned to deliver firefighting training be required to have a minimum of the N.F.P.A. 1041 – Instructor Level I qualification.
Instructor Level II	It is recommended that all full-time Officers, Volunteer Station Training Officers and Volunteer Assistant Training Officers be required to attain the N.F.P.A. 1041 – Instructor Level II qualification.
Instructor Level III	It is recommended that the Deputy Chief – Support Services and the full-time Training Officers be required to attain the N.F.P.A. 1041 – Instructor Level III qualification. Not yet available in Ontario.

Operational Recommendation #19: That subject to Council's consideration and approval of the proposed Fire Master Plan, all staff assigned to delivering the department's comprehensive annual training program be required to attain the applicable training staff qualifications presented within the proposed Fire Master Plan.

9.4 Annual Training Program

The development and provision of an Annual Training Program (A.T.P.) for both volunteer and full-time firefighters is an industry best practice. The annual training program should provide the required training to achieve and sustain the skills and competencies required to provide the Council approved service levels. This further heightens the importance of ensuring that the Council approved service levels are clearly defined within the Establishing & Regulating By-law.

The C.F.E.S. current annual training program begins at the recruitment stage of both volunteer and full-time firefighters and requires commitment to an ongoing process of learning both the theoretical and practical job-related tasks of a firefighter. Training also includes the development of future company officers through the delivery of leadership and supervisory programs. Preparing and administering the promotional process is another important function of the training division.

The C.F.E.S. is similar to many other fire departments in Ontario that utilize both volunteer and full-time firefighters to meet the challenges of sustaining the significant amount of training required. These challenges include ensuring that firefighter training is consistent between stations and within the department to ensure efficiency during an emergency incident and the safety of all firefighters. The following sections provide more insight into the department's current annual training program followed by discussion regarding a proposed Comprehensive Annual Training Program.

9.4.1 Volunteer Firefighter Recruit Training

Over the past decade there has been a significant increase in the turnover of volunteer firefighters across Canada. As a result, fire departments are recognizing the need to enhance their volunteer firefighter recruitment processes and training program. The C.F.E.S. is a prime example of a fire department that has been required to reengineer itself in response to sustaining the utilization of volunteer firefighters.

With the support of Council, this has included the recent hiring of a third full-time training officer and the introduction of the three command areas. The department has also revised its volunteer firefighter recruit training program to align with the qualification requirements of the N.F.P.A. 1001 Standard. C.F.E.S. volunteer firefighter recruits continue to serve a probationary period while developing their competency and gaining the necessary firefighting experience. Completion of the recruit training program still takes approximately three years. During the stakeholder consultation process very positive feedback was received for the recent improvements to the volunteer firefighter's recruitment program and the quality of training provided.

At the time of developing this F.M.P. there were 33 volunteer firefighters participating in the current volunteer firefighter recruit training program.

Our research indicates that the department is in the process of developing a formal operating guideline that will be utilized in the future to guide the delivery of this updated program. **It is recommended that this operating guideline be developed and approved as soon as possible.**

9.4.2 Live Fire Training

The purpose of live fire training is to provide realistic fire training simulations under safe and controlled conditions. With a variable number of fire calls encountered by each station, it is important that the department provides access for all firefighters, especially volunteers in lower populated communities, to simulate safe and effective fire suppression operations in an appropriate training facility. Live fire training exercises are intended to simulate the actual fire conditions that a firefighter may encounter and provide simulated heat, humidity, restricted vision and smoke conditions. This type of training is also very beneficial for firefighters, and particularly Company Officers, in learning to understand fire behaviour including identifying evolving smoke conditions as they may relate to the potential for fire extension or conditions such as a flashover.

The C.F.E.S is currently providing access to live fire training through partnerships with neighbouring fire services and utilization of the Compartmentalized Fire Behaviour Training Unit (shipping container). Further access to live fire training to accommodate the training schedule of the volunteer firefighters, and accessibility of the full-time firefighters while on duty, is a priority of the C.F.E.S. Once completed, the department's new Fire Training Facility will provide an excellent opportunity to provide multi-disciplinary training including expanded live fire training. This facility will include a multi-discipline structure that includes a four storey facility with stairs, roof top access, standpipe, hose cabinets, and sprinklers. The facility will be designed to allow for simulation of residential and industrial fires among many other features that reflect the needs of a modern fire service located in a growing rural community.

At the time of completing this F.M.P. the department was beginning its initial live fire training for training instructors at the Training Centre.

9.4.3 Online Training

Access to online training programs can provide greater flexibility in delivering a comprehensive training program, particularly for volunteer firefighters. Online programs can be designed to meet varying learning styles and objectives. These programs enable personnel to access training and resources remotely, with options for individual and group learning and participation. The C.F.E.S. is currently utilizing a platform supported by Target Solutions, an online service provider for fire services across North America.

The utilization of online learning has been a challenge for fire services like the C.F.E.S. that have relied on more traditional learning and training practices. In response to the current COVID-19 pandemic, the Town of Caledon and the C.F.E.S. have significantly enhanced their utilization of technology solutions to maintain services, including firefighter training. The feedback received through the internal stakeholder engagement process for this F.M.P. indicates that there has been a wider acceptance of utilizing technology such as on line learning as a result of the current COVID-19 pandemic. In our view, this should be recognized as an opportunity to further expand the utilization of online learning as part of the department's existing comprehensive annual training program.

Operational Recommendation #20: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. investigate options to further enhance the utilization of online training.

9.4.4 Company Officer Training and Development

The fire service is a paramilitary organization that relies on a rank structure to manage the roles and responsibilities of the organization and the operational services it delivers. This structure needs to include an appropriate span of control in order to be efficient and effective. A sufficient number of Company Officers are required to ensure the function of incident command can be implemented at all emergency scenes, and depending on the incident action plan, have sufficient additional officers to facilitate other roles required for successful incident command.

Municipalities are required to ensure that a sufficient number of supervisors (company officers) are trained to oversee the workforce. Within 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 O.H.S.A. to ensure that all supervisors, which includes company officers, be competent. The O.H.S.A. defines a “competent person” to mean a person who:

a) “is qualified because of knowledge, training and experience to organize the work and its performance;

b) is familiar with this Act and the regulations that apply to the work; and

c) has knowledge of any potential or actual danger to health or safety in the workplace”

Within the C.F.E.S., a supervisor would be defined as the Fire Chief, Deputy Fire Chiefs, Chief Fire Prevention Officer, Training Officers, Volunteer District Chiefs, Volunteer Assistant District Chiefs as well as the volunteer and full-time Captains. Industry best practices reflect that a company officer training program should be ongoing as an element of a broader Officer Development Program. This strategy further supports succession planning and career development for future senior officers.

The existing company officer development program for C.F.E.S. is based on the Ontario Fire College program. Historically the full-time firefighters were enrolled based on hiring priorities for succession planning. The volunteer firefighters were enrolled as part of mandatory supervisor training. Through the Town of Caledon’s employee development program, there is an open opportunity to participate in training provided by Dalhousie University or Ryerson University. As with other training programs, the company officer training is being transitioned to include the applicable N.F.P.A. standards including N.F.P.A. 1021 - Standard for Fire Officer Professional Qualifications. Part of this transition will include online training based on N.F.P.A. 1521 Standard “Standard for Fire Department Safety Officer Professional Qualifications”. An established Company Officer Training Program that meets appropriate training standards should also be considered in promotional policies.

As part of the review completed for this F.M.P., it was identified that there is no established promotional policy for volunteer firefighters.

Operational Recommendation #21: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. investigate opportunities to further enhance its Company Officer Training Program as referenced in the proposed Fire Master Plan.

9.4.5 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 incident command in relation to the outcome of emergency scene operations, and the skill development of the Officer so they can serve as an Incident Commander. Guidance Note #2-1 describes the first action of employers to train all personnel in incident command, and requires the use of an Incident Command System (I.C.S.) during all incidents.

Incident Command 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 command should be established by the first arriving officer and be sustained until the emergency is mitigated. The Incident Commander (I.C.) is responsible for all aspects of managing the emergency incident including developing an "Incident Action Plan" and managing 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.

The C.F.E.S. currently follows industry best practices for incident command training through established operational guidelines (Section 6) that are dedicated to Incident Command. C.F.E.S.

Operational Guideline #6-001 Duties and Function of Command outlines the “rule of eight” when assessing and establishing command and further details the ten steps of command. The C.F.E.S. has also recently adopted the ‘Blue Card Fire Command Training Program” to support its incident command training requirements.

9.4.5.1 Blue Card Fire Command Training

The Blue Card Fire Command Training Program is a training and certification process that utilizes both on-line and in-class simulation training that focuses primarily on incident command training for structural fire responses, but is applicable to all emergency incident responses. This training program has been applied in many fire departments across North America including Ontario and is well regarded within the fire service industry.

The C.F.E.S. has developed a computer lab at the Headquarters fire station and has adopted the Blue Card Fire Command Training program to support incident command training. Utilization of the Blue Card Fire Command Training is an example of a program that reflects current industry best practices. The C.F.E.S. does need to ensure that there are corresponding operating guidelines in place to guide the utilization of this program.

9.4.6 Proposed Comprehensive Annual Training Program

There is an opportunity to enhance the current annual training plan by developing a consolidated Comprehensive Annual Training Program (C.A.T.P.) that includes performance goals and objectives. The C.A.T.P. should include basic firefighting requirements, as well as specialized technical rescue training, where applicable. In addition to responding to established training levels reflecting service levels set by Council, a comprehensive annual training program should also address an employer’s responsibilities as defined by the Occupational Health and Safety Act, specifically the Section 21 Guidance Notes.

Along with adhering to relevant standards, curriculum and health and safety requirements, a comprehensive annual training program 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
- Ongoing assessment of program delivery for efficiency and electiveness

Consideration should be given to the training programs discussed within this F.M.P. including recruit training, live fire training, company officer training, and specialized training programs. As previously referenced, to complement the proposed Comprehensive Annual Training program, the department should develop a policy to identify training and qualification required to deliver training.

Operational Recommendation #22: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S consider developing a comprehensive annual training plan based on the N.F.P.A. Professional Qualifications Standards as presented within the proposed Fire Master Plan.

9.5 Specialized Training Programs

The Town of Caledon is a large geographic area and as such experiences risks related to transportation networks, rural areas, natural heritage features, and settlement areas. In response the presence of these risks, the C.F.E.S. trains for and provides a number of specialized technical rescue services. Such services require specialized training as the low probability but higher consequence of these incidents requires a higher standard of technical and health and safety requirements. The level of training required is established through the identified service level for each technical rescue service. The three operational levels are established in **N.F.P.A. 1670 Standard on Operations and Training for Technical Search and Rescue** Incidents are:

1. **Awareness Level** – reflecting the minimum capability of organizations
2. **Operational Level** – reflecting the capability of organizations to respond, use equipment, and apply techniques to support and perform a technical rescue
3. **Technician Level** – reflecting the capability of organizations to not only provide the Operational Level services but also to coordinate, perform, and supervise a technical rescue

The C.F.E.S. provides specialty training to support five areas of response as outlined in the current Fire Department Establishing, Maintaining, and Operating By-law: high-angle rescue; trench rescue (Awareness Level); water and ice rescue (shore-based); HAZMAT (Awareness Level); and vehicle extrication. It was also identified as part of this review that C.F.E.S. provides Confined Space and Silo Rescue services at an Awareness Level. Considering the agricultural nature of the community, further assessing this service based on the results of the Community Risk Assessment may be warranted. These services are also not currently included within the Establishing, Maintaining, and Operating By-law.

The provision of specialized rescue services can create resource challenges for a Training Division and increased demands on firefighters due to the highly specialized nature of providing these services. Due to the low probability of these events occurring, ongoing training for these services are of the utmost importance to ensure health and safety of firefighters. It can be especially challenging to provide a training program if the level of service is provided beyond Awareness Level. The C.F.E.S. targets providing the awareness level of all specialized rescue training for all staff. In our view, this is appropriate and recognizes best practices within the industry. Where staff have been specifically identified to deliver a specialized rescue service beyond the awareness level, (e.g. Station 305 (Ingelwood) that currently delivers High Angle Rescue services) the department targets the higher training standards of operations and technical competency to a smaller group of firefighters.

The provision of specialized training is another area where the department is still transitioning to the use of N.F.P.A. Standards. There are currently departmental operating guidelines for the provision of these services from an incident command and operations perspective (e.g., O.G.#7-037 Response to High Level High Angle Incidents). Some of these O.G.s make reference to training requirements, such as annual recertification for the provision of high angle rescue services; however, they do not identify a training standard. There is also an opportunity to develop an established curriculum and schedule based on appropriate N.F.P.A. training standards for the technical rescue services provided by C.F.E.S. to further enhance the current Comprehensive Annual Training Program. **It is recommended that enhanced operating guidelines be developed for these services and approved as soon as possible.**

Investigating further options for partnering with other adjacent fire services to deliver specialized rescues is an effective strategy that is being utilized, particularly in southern Ontario. Where possible the C.F.E.S. should be investigating and participating in developing automatic aid agreements for specialized rescue services with its neighbouring fire departments (e.g., Mississauga Fire and Emergency Services, Brampton Fire and Emergency Services, Toronto Fire, etc.).

Operational Recommendation #23: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S. continue to investigate options for developing automatic aid agreements for providing Specialized Rescue Services.

9.6 Succession Planning

Fire departments and municipalities are beginning to recognize the importance and value that succession planning has within the municipal fire service, however it was not traditionally an area of focus within the Ontario fire service. An effective succession plan requires the implementation of strategies to ensure that opportunities, encouragement and additional training are available for those staff that may be considering further advancement within an organization. A comprehensive succession plan also supports the concepts of coaching and mentoring in support of staff considering future career opportunities.

Succession plans can provide a framework of skills and experience that are required for each position within the department. For candidates seeking promotion or further responsibilities the succession plan can provide a career path to the position of their choosing. Succession planning can also provide Council with the knowledge that there are trained and skilled candidates available in the event vacancies occur within the department.

Our research provides several examples of how the C.F.E.S. has historically supported succession planning opportunities. These include an Acting Fire Chief role and secondments to the Training Division. In our view, the C.F.E.S. is well positioned to formalize and consider integrating the elements of succession planning within many of its existing programs, such as the proposed committee structures, company officer development and further utilization of secondments opportunities.

Operational Recommendation #24: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S prioritize the implementation of succession planning opportunities.

9.7 Volunteer Firefighter Recruitment and Retention

There are numerous factors impacting volunteer firefighters across the Province including the requirements for higher training standards, increasing emergency call volumes, and the resulting increasing demand on personal commitment to sustain a high degree of training competency and experience gained through responding to calls. Maintaining an appropriate balance between the demands of being a volunteer firefighter and those of family and other commitments is becoming more difficult.

Historically, volunteer firefighters represented a portion of the community that lived and worked in close proximity to the fire station and individuals were allowed to leave work and respond to emergency calls. Financial compensation, although warranted, was not the only motivator for those seeking to become a volunteer firefighter. Performance expectations including maintaining training standards and attendance at training sessions, and sustaining minimum response attendance to emergency calls continue to increase the demands municipalities place on volunteer firefighters.

Municipalities must begin to develop recruitment and retention strategies for volunteer firefighters that recognize this evolution. Retention strategies can include a range of material rewards such as uniforms, awards and support to attend conferences. Monetary rewards have evolved to include considering access to benefits such as insurance coverage and access to other benefit programs which full-time employees receive. Considering the total compensation package, volunteer firefighters should also recognize the value of the training and experience received. This is particularly relevant to the younger generation seeking a future as a full-time firefighter.

The Town of Caledon and the C.F.E.S. are recognized within the fire service industry as strong supporters of volunteer firefighters. The Town has been able to sustain the volunteer firefighter model particularly in those areas being exposed to increased development, resulting in higher emergency call volumes. The loss of any significant portion of volunteer firefighters at any one station, or across the department, would have a resulting negative impact on the department's fire suppression capabilities.

Our research has identified several other municipalities in Canada that have traditionally relied on volunteer firefighters that are now beginning to develop and implement staffing alternatives, other than transitioning straight to full-time firefighters. In several instances, these municipalities have recognized the need to supplement their existing complement of full-time firefighters by implementing staffing strategies such as paid on call and part time firefighters. Initial indications are being described as a benefit to the sustainability of the volunteer operating model while recognizing the need to supplement full-time staff providing 24/7 fire suppression coverage. It is recommended that the Town of Caledon conduct further research into alternative staffing models for the delivery of fire suppression services, including the utilization of paid on call or part time firefighters to assist in the transition towards additional full-time firefighters, and the augment the sustainability of the volunteer firefighter operating model.

Council Recommendations #15: That subject to Council's consideration and approval of the proposed Fire Master Plan, that the Town of Caledon conduct further research into the utilization of alternative staffing models for the provision of fire suppression services, as referenced within the proposed Fire Master Plan.

9.8 Proposed Training Division Model and Priorities

As a result of our research to prepare this F.M.P., and the feedback received during the consultation process with both the volunteer and full-time firefighters, it is our view that revisions to the current training division model and priorities should be considered. The current process to deliver volunteer firefighter training, consistency in the standard of training across the department (volunteer and full-time) and joint station training (volunteer and full-time) were amongst the most consistent topics raised during the firefighter consultation process.

9.8.1 Proposed Volunteer Firefighter Training Model

In our view, there is sufficient evidence to support developing a revised organizational structure for the delivery of the volunteer firefighter training program. It is evident that within the current organizational model the volunteer District Chiefs and volunteer Assistant Chiefs tend to inform the type of training and training priorities for their respective stations. In our view, this is a further example of the historical roots that remain in the C.F.E.S.

Although the volunteer Chiefs' opinions and feedback is important, the resulting inconsistent approaches between stations adds further pressure to the Training Division to ensure standardization of firefighter training across the department.

In our view, the volunteer Training Officers need to be provided with greater authority and responsibility to be directed by the full-time Training Officers. A process also needs to be implemented to ensure that the volunteer Training Officers and volunteer Assistant Training Officers are qualified to the applicable N.F.P.A. training qualifications. At a minimum this should include the N.F.P.A. 1041 – Instructor Level II qualification.

The proposed volunteer firefighter training model includes the volunteer Training Officers reporting directly to the full-time Training Officers for all matters related to the delivery of the department training program. Within the current training command model, this would mean each of the full-time Training Officers would have three volunteer Training Officers reporting to them. In this model the full-time Training Officers would coordinate the volunteer training for all nine stations and support the delivery of that training by providing the volunteer Training Officers with the required lesson and safety plans and competency checklists.

9.8.2 Proposed Joint Training

Through the internal stakeholder consultation process, we learned some C.F.E.S. stations participate in joint training sessions, but that there is a lack of formalized consistent approach to stations training together. Conducting training sessions with neighbouring C.F.E.S. stations provides the opportunity to reduce challenges associated with differences in on-scene operations. Additionally, conducting regular (at least annual) joint training with the Town's mutual aid partners would provide the opportunity to ensure interoperability of equipment, communication technology, and staff interaction during mutual aid events.

Operational Recommendation #25: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S incorporate regular opportunities for joint training sessions amongst C.F.E.S. stations into its Comprehensive Annual Training Program.

Operational Recommendation #26: That subject to Council's consideration and approval of the proposed Fire Master Plan, the C.F.E.S incorporate annual

opportunities for joint training sessions with mutual aid partners into its Comprehensive Annual Training Program.

9.9 Administrative Processes, Technology and Records Management

As referenced throughout this proposed F.M.P. the department's current administrative processes predominantly utilize Microsoft Excel spreadsheets and Microsoft Word documents. Within the training division there is a general absence of integrated technology that would enhance the efficiency of tasks such as the development of teaching plans, training records management and performance monitoring.

This proposed F.M.P. recommends that the C.F.E.S. prioritize a review of its current technology applications and develop a technology infrastructure implementation plan.

9.10 Training Division Summary of Recommendations

The Training Division of the C.F.E.S has a legislative responsibility to develop, deliver and monitor the training qualifications of a total complement of over 300 volunteer and full-time firefighters. As a result of the ongoing annual turnover of volunteer firefighters the actual number of staff requiring training increases by approximately fifteen percent annually. In response the department has developed and implemented the **'command area'** training model. This training model designates each of the three full-time Training Officers with the responsibility to oversee three of the department's fire stations and a staffing complement of approximately 100 firefighters.

Since completion of the 2018 F.M.P., the C.F.E.S. has implemented the recommended Training Committee and with the support of Council, hired a third full time Training Officer. The department has also updated many of its training initiatives such as a new volunteer firefighter recruitment and training program, and adopted the Blue Card Incident Command Training Program.

This F.M.P. includes recommendations to further enhance the effectiveness and efficiency of the departments training program. It is recommended that, subject to Council's consideration and approval of the proposed Fire Master Plan that the Caledon Fire and Emergency Services, implement the following recommendations in support of achieving the strategic priorities presented within this F.M.P.

Council Recommendation:

15. **That the Town of Caledon conduct further research into the utilization of alternative staffing models for the provision of fire suppression services, as referenced within the proposed Fire Master Plan.**

Operational Recommendations:

19. **That all staff assigned to delivering the department's comprehensive annual training program be required to attain the applicable training staff qualifications presented within the proposed Fire Master Plan.**

20. **That the C.F.E.S. investigate options to further enhance the utilization of online training.**

21. **That the C.F.E.S. investigate opportunities to further enhance its Company Officer Training Program as referenced in the proposed Fire Master Plan.**

22. **That the C.F.E.S consider developing a comprehensive annual training plan based on the N.F.P.A. Professional Qualifications Standards as presented within the proposed Fire Master Plan.**

23. **That the C.F.E.S. continue to investigate options for developing automatic aid agreements for providing Specialized Rescue Services.**

24. **That the C.F.E.S prioritize the implementation of succession planning opportunities.**

25. **That the C.F.E.S. incorporate regular opportunities for joint training sessions amongst C.F.E.S. stations into its Comprehensive Annual Training Program.**

26. **That the C.F.E.S incorporate annual opportunities for joint training sessions with mutual aid partners into its Comprehensive Annual Training Program.**

10.0 Stations, Apparatus and Equipment

The C.F.E.S. currently provides fire protection services from nine fire stations located throughout the Town. Many of these fire stations are still located within their pre-amalgamation locations. This section presents a brief overview of each of the departments current fire stations as informed by the 2018 F.M.P. report. As a result of the current COVID 19 pandemic no additional tours or further analysis of the condition of the stations was completed. The most significant changes to the department's facility (fire station) infrastructure since 2018 has been the opening of the new Fire Station 302 located in Bolton and the opening of the new Training Centre.

This section will also present an overview of the department current fire apparatus fleet and fire suppression equipment.

10.1 Fire Stations

The C.F.E.S. currently provides fire protection services from nine fire stations located to provide emergency response services to the entire Town. The C.F.E.S. administrative functions are located at the Headquarters facility at 6211 Old Church Road in Caledon East. The scope of this F.M.P. update was limited to a review and update of any changes that have occurred since the previous F.M.P. was completed in 2018. **Table 63** provides a brief description of each fire station.

Our review indicates a wide range of fire station design, size, age and amenities. These findings are consistent with many of the fire stations being built prior to amalgamation and as such reflecting the previous local community needs. All of the stations have been retrofitted or equipped with direct capture diesel exhaust extractors that is a recommended element of the O.H.S.A. Section 21 guidance notes. All of the stations have also been equipped with laptops and audio-visual tools such as a mounted projector to support the training program.

Our research indicates that the Town's 2019-2028 capital projects funding includes further planned renovations for the following stations:

- 2021 - Station 306 Palgrave - $837,000
- 2022 - Station 308 Mono Mills - $837,000
- 2023 – Station 301 Alton - $900,000
- 2025/2026 – Caledon Village - $900,000

This F.M.P. has not identified any proposed changes to the existing station locations, as such continued investment in the infrastructure improvements and facility needs is recommended. Where possible the department would benefit from identifying opportunities to standardize the station design elements and amenities to further support the sustainability of volunteer firefighters and the proposed increase in the number of full-time firefighters. This could be achieved through a comprehensive fire station/facility infrastructure needs assessment including the development of a maintenance and replacement plan. Such a study would also enable the identification of station-related long term capital planning needs.

Operational Recommendation #27: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to developing a comprehensive fire station/facility infrastructure needs assessment including a maintenance and replacement plan.

Table 63: Fire Station Descriptions

Station	Description
Headquarters: 6211 Old Church Road, Caledon East 	C.F.E.S. Headquarters is two storeys and has two small bays. The building has a small public reception area, medium-sized kitchen, boardroom, storage, fire prevention trailer, and administration and prevention offices and cubicles. The headquarters also has male and female washrooms which have shower accommodations.
Station 301: 19630 Main Street, Alton 	Station 301 is a one storey volunteer station with two small bays and three apparatus - one pumper, one squad vehicle, and one tanker. The station has a small administrative office, one unisex bathroom, a combined kitchen and training room, and a hose tower. Bunker gear is stored on the apparatus floor adjacent to the vehicles on racks. This station is also equipped with a portable generator.

Station	Description
Station 302: 28 14002 Regional Road 50, Bolton 	This new shared fire/paramedic facility is designed as a one storey building with six drive-through bays (four dedicated for the fire and emergency services). This new facility includes a separated bunker gear room, large training room and a public education centre.
Station 303: 6085 Old Church Road, Caledon East 	Station 303 is two storeys and has three full bays and two half bays. It was built in 1967 and was previously used to house the headquarters for C.F.E.S. This station now includes two meeting rooms available for broader Town use. The station is equipped with an air fill station, radio room, hose tower, bookable meeting space, large training room used for recruit/department training, large kitchen, portable generator, and separate, ventilated room for bunker gear storage. It is host to one tanker, one squad vehicle, one pumper, and one command vehicle. It is also home to one spare tanker and the antique fire truck.
Station 304: 14190 Creditview Road, Cheltenham 	Station 304 is a two-storey volunteer station with two bays. The building was extended in 2007/2008 and is co-located with a Region of Peel Pump Station and a community centre including a baseball diamond / sports field. The parking lot for the community centre and fire facilities are shared. As part of the addition, a considerable amount of storage space, office space, and training/assembly space was added and is located on the second floor. This station has separate storage for the bunker gear and a radio room. A generator is located outside which has automated monthly tests. It is host to one squad vehicle and one tanker.

Station	Description
Station 305: 67 Mackenzie Street, Inglewood 	Station 305 is a split-level, volunteer station with two bays. The site is relatively small which constrains parking for volunteers and the configuration of the station. The station has a hose tower, portable generator, a very small space for radios/desk space, a large training room, large kitchen, and two washrooms. Storage at the station is an issue, as some items are stored in one of the washrooms. It is also host to one pumper, one tanker, and one squad vehicle.
Station 306: 17177 Highway #50, Palgrave 	Station 306 is a one-storey, volunteer station and has two bays. The station has a small storage room, small mixed use area (assembly/training/kitchen), a small radio room, and an office for a district chief. There is currently limited parking for volunteer firefighters. It is also host to one pumper, one tanker, and one squad vehicle.
Station 307: 2 Snelcrest Drive, Mayfield West 	Station 307 was constructed in 1995 and was expanded in 2013. It serves as the IT Disaster Recovery Centre for the Town and has two drive-thru bays for fire. The building is co-located with EMS with has a physically separated bay and EMS administrative space. The station has a hose tower, generator, radio room, admin room, small exercise room, kitchen, large training room, Deputy Chief office, large IT suite, training office, and plenty of storage space. There is also room for a future addition of dorms and/or large training space. It is also host to one pumper, one tanker, and one squad vehicle.

Station	Description
Station 308: 6000 Highway #9, Mono Mills 	Station 308 is a single-storey, concrete block station with two bays. Operated by volunteers, it is the sister station of Station 301 and Station 306. At this station, bunker gear is stored on the apparatus floor. The station has one office for the d combined assembly/training/kitchen area, generator, hose tower, and a small shared radio/mud room. It is also host to one pumper, one tanker, and one squad vehicle.
Station 309: 3611 Charleston Side Road 	Station 309, co-located with E.M.S., was constructed in 2001 and is one storey with three drive-thru bays (one of which is shared with EMS).The station has a Deputy Chief office, E.M.S. office, training office, two storage rooms, large training room, small radio room, burn unit, and generator. The kitchen and lounge space is shared with E.M.S. This site is home to the live fire simulator and there is additional space for a future training facility. It is also host to an aerial truck, pumper, squad vehicle, and tanker.

10.2 Fire Suppression Apparatus

The current fire suppression apparatus fleet operated by the C.F.E.S. includes a wide range of different types of vehicles. Within the fire service it is necessary to ensure that the appropriate apparatus type is available to respond to different types of emergencies.

10.3 Types of Fire Suppression Apparatus

P.F.S.G. 04-07-12 Types of Apparatus and Equipment was developed by the O.F.M.E.M. to provide communities, such as the Town of Caledon, with options to follow in determining the level of fire suppression and types of fire apparatus and equipment that should be available within the community. P.F.S.G. 04-07-12 provides the following information for consideration:

- Demands on municipal resources force all communities to re-evaluate the level and nature of services they provide
- Traditional approaches to the delivery of fire suppression with full-size triple combination pumpers may not necessarily be the most appropriate way to deliver this component of community fire safety, particularly in small communities with limited availability of firefighting personnel
- The primary mission of all fire departments should be to ensure that the community is provided with an optimal level of fire protection in a cost effective and efficient manner. This optimal level may require a much greater emphasis on fire prevention and public education activities - with residents being responsible for protection within their own residences
- New technology provide options
- Must be appropriate to the fire suppression needs of the community
- Dependent upon availability of human resources needs to work closely with neighbouring communities
- Focus must still be on community fire safety initiatives

P.F.S.G. 04-07-12 also refers to the N.F.P.A. 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. N.F.P.A. 1901 standard includes definitions for each type of major fire suppression apparatus:

10.3.1 N.F.P.A. 1901- Standard for Automotive Fire Apparatus (2009 Edition)

The N.F.P.A. 1901 standard provides the following definitions of major fire apparatus:

- **Pumper:** Fire apparatus with a permanently mounted fire pump of at least 750 g.p.m. (3000 L/min) 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 g.p.m. (1000 L/min) 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 ladder 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 the N.F.P.A. 1901 standard the fire service 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.

10.4 C.F.E.S. Current Major Apparatus Fleet (Firefighting)

The current major apparatus fleet operated by the C.F.E.S. represents the type of fleet that would be expected based on the fire risks present within the municipality. The current inventory of major apparatus fleet includes those vehicles that are used on a daily basis (front-line) for the provision of fire suppression services and service ready (reserve) apparatus that are available to replace a front-line apparatus when it is out of service for maintenance or repairs.

Our review indicates that in some instances the current major apparatus fleet continues to resemble that of the type and number of major apparatus that would have been in place prior to amalgamation. For example, the majority of the stations staffed solely by volunteer firefighters continue to have three major apparatus typically including two types of pumper apparatus (pumper/rescue, squad (C.F.E.S pumper/rescue), or pumper) and a pumper tanker.

The current replacement strategy for major fire apparatus is guided by the applicable N.F.P.A. standards and the fire suppression apparatus replacement guidelines recommended by the Fire Underwriters SurveyTM (F.U.S.), a national organization administered by S.C.M. Risk Management Services Inc. (formerly C.G.I. Insurance Business Services, formerly the Insurers' Advisory Organization and Canadian Underwriters Organization). For example, the F.U.S. Dwelling Protection Grade 3B rating requires a minimum pump capacity of 3000 (L.P.M.). F.U.S. also requires fire apparatus to meet either the U.L.C.-S515 - 04 or the N.F.P.A. 1901 Standard for Firefighting Apparatus Construction, Equipment and Testing. The F.U.S. recommended major fire apparatus replacement schedule includes the following:

- Major cities 12 – 15 years, with an additional five years in reserve
- Medium size cities 15 years, with additional five years as back up, and five years in reserve
- Small municipalities 20 years, with an additional five years in reserve

Historically the Town has targeted the replacement of major fire apparatus based on a 15 year front-line life cycle with an additional five year service ready (reserve) use as recommended by F.U.S. for medium size cities.

This strategy is consistent with current municipal best practices within the industry reflecting a total 20 year life cycle for comparable municipalities. It should be noted that once the 20 year life cycle has been obtained F.U.S. requires further annual inspections and maintenance in order to recognize the extended utilization of major apparatus.

Table 64 illustrates a summary of the C.F.E.S. current major apparatus fleet replacement plan including the original year the apparatus was purchased, the targeted 15 year front-line use replacement date and the current identified replacement year. This summary confirms Councils support to replace three major fire apparatus in 2020 including Pumper 302, Pumper 305 and Pumper Tanker 309.

However, the current C.F.E.S. 10-year capital replacement plan includes 20 additional major fire apparatus that are scheduled for replacement within the next 10 years. This represents a capital financing requirement of approximately 14.3 million dollars over the next 10 years, or approximately 1.43 million dollars per year.

Table 64: Current Major Apparatus Fleet

Vehicle	Description	Manufacturer/ Chassis	Year Purchased	15 – Year Replacement Date	Current Forecasted Capital Budget Replacement
Station 301					
P301	Pumper Wildland	Dependable / Freightliner M2 112 Conventional Chassis	2014	2029	2030
S301	Pumper Rescue	Dependable / Freightliner M112 Crew Cab	2005	2020	2025
T301	Pumper Tanker	Dependable / Freightliner FL80 Crew Cab	2003	2018	2022
Station 302					
P302	Pumper Rescue	Dependable / Freightliner FL112 Crew Cab	1999	2014	2020 (Approved)
S312	Pumper Rescue	Dependable / Spartan Gladiator	2008	2033	2033
T302	Pumper Tanker	Dependable / Freightliner M2 112	2020	2035	2035
A302	100’ Aerial Platform	Crimson / Spartan Gladiator	2005	2020	2025
P322	Mini Pumper 4x4	Ford F450 / Utility/ Support Vehicle	2003	2018	2026

Vehicle	Description	Manufacturer/ Chassis	Year Purchased	15 – Year Replacement Date	Current Forecasted Capital Budget Replacement
Station 303					
P303	Pumper	Superior / Freightliner FL80 Raised Roof Crew Cab	2000	2015	2021
S303	Pumper Rescue	Dependable / Freightliner M112 Crew Cab	2005	2020	2025
T303	Pumper Tanker	Dependable / Freightliner FL80 Crew Cab	2003	2018	2023
SU 303	Support Unit	Freightliner Step Side Rehab Support Unit	2009	2024	2030
CP303	Command Post	Dependable / Ford Super Duty Regular Cab	1988	2021	2021
Station 304					
S304	Pumper Rescue	Dependable / Freightliner M112 Crew Cab	2005	2020	2025
T304	Pumper Tanker	Dependable / Freightliner M112 Crew Cab	2011	2026	2026
Station 305					
P305	Pumper Rescue	Superior / Freightliner FL112 Crew Cab	1998	2012	2020 (Approved)
S305	Pumper Rescue	Dependable / Freightliner M112 Crew Cab	2007	2022	2027

Vehicle	Description	Manufacturer/ Chassis	Year Purchased	15 – Year Replacement Date	Current Forecasted Capital Budget Replacement
T305	Pumper Tanker	Dependable / Freightliner FL80 Crew Cab	2003	2018	2023
Station 306					
P306	Pumper	Superior/ Freightliner FL80 Crew Cab	1999	2013	2021
S306	Pumper Rescue	Superior / Freightliner FL80 Crew Cab	2001	2016	2022
T306	Pumper Tanker	Dependable / Freightliner M2 112 Conventional Chassis	2007	2022	2024
Station 307					
P307	50’ Quint	Superior / Freightliner FL112 Crew Cab	1998	2014	2021
S307	Pumper Rescue	Dependable / Spartan Metro Star-X Crew Cab	2017	2032	2032
T307	Pumper Tanker	Dependable / Freightliner FL80 Crew Cab	2003	2018	2022

Vehicle	Description	Manufacturer/ Chassis	Year Purchased	15 – Year Replacement Date	Current Forecasted Capital Budget Replacement
Station 308					
P308	Mini Pumper Wildland	Ford F550 / Utility / Support Vehicle	2003	2018	2023
S308	Pumper Rescue	Dependable / Freightliner M112 Crew Cab	2005	2020	2024
T308	Pumper Tanker	Dependable/ Freightliner M2 112 Crew Cab	2018	2033	2033
Station 309					
P309	Pumper Wildland	Dependable / International Crew Cab	2011	2026	2026
S309	Pumper Rescue	Dependable / Spartan Gladiator Crew Cab	2008	2023	2024
T309	Pumper Tanker	Superior / Freightliner FL112 Crew Cab	2000	2015	2020 (Approved)
SS309	Pumper Rescue	Superior / Freightliner FL80 (Service Ready)	2000	2015	N/A
ST303	Pumper Tanker	Dependable / Freightliner FL80 (Service Ready)	1997	2012	N/A

In summary, our analysis of the C.F.E.S. current major apparatus fleet has identified the need for the Town to consider developing long-term capital financing strategy to support the major fire apparatus replacement requirements of the C.F.E.S. This strategy could follow the Towns historical practices of identifying the capital financing requirements on an annual basis as was completed in 2019 to fund the three new major fire apparatus being purchased in 2020, or alternatively the Town could consider developing a major fire apparatus reserve fund through annual contributions. Our recommendation is that the Town develop and implement a major fire apparatus reserve fund to provide the long-term capital financing required for the purchase of replacement apparatus. To support this recommendation our analysis includes a proposed major apparatus deployment/replacement strategy.

Council Recommendation #16: That subject to Council's consideration and approval of the proposed Fire Master Plan, the Town consider developing a major fire apparatus reserve fund as presented within the proposed Fire Master Plan.

10.5 Proposed Major Fire Apparatus Deployment Plan / Replacement Strategy

As indicated previously the Town has historically funded the replacement of major fire apparatus through the forecasted 10-year capital budget process. The impact of this financing strategy is the need for a large capital funding requirement in any one, or a number of the years within the Towns 10 year capital financing plan. In our experience the Town would benefit from developing a major fire apparatus reserve fund that is funded through annual contributions from the Towns capital budget process. The implementation of this strategy would require the Town to develop a transition process from the current annual funding process to the proposed major fire reserve fund process that may take several years to implement. However, in the long-term the presence of the proposed major fire apparatus reserve fund would reduce the C.F.E.S. reliance, and request for significant capital funding for major fire apparatus purchases in any one year, and therefore provide a long-term fully funded major apparatus replacement plan.

As part of developing the proposed major fire apparatus reserve fund we believe the Town should also consider further standardization of the major apparatus fleet, broader utilization of specialty apparatus, and the development of a defined service ready (reserve) major apparatus fleet. In our view these considerations should result in a future reduced capital funding requirement for the C.F.E.S. major fire apparatus fleet.

10.6 Additional Standardization of Major Apparatus Fleet

The C.F.E.S. has been working towards fleet standardization for many years. In our view this strategy should continue and focus on standardization of the two primary major fire apparatus assigned to each of the C.F.E.S. nine fire stations. In our view this should include a “pumper/rescue” and “pumper tanker” being assigned to each of the nine stations and standardization of all aerial devices. The proposed major fire apparatus reserve fund should be developed and implemented with a focus on sustaining a 15-year life cycle for ‘front-line’ service and an additional five years of ‘service ready’ life representing a total maximum life cycle of 20 years for these types of major fire apparatus.

Where possible standardization of the major components of these apparatus including the chassis, pumps, motors, transmissions and aerial devices should be prioritized to enhance the operational effectiveness of firefighters at an emergency scene through familiarity and consistency in training when the apparatus is standard throughout the department. In our experience efficiencies through standardization are also achieved through preventive maintenance and repairs by limiting parts requirements to standardized apparatus and standardization of knowledge for the staff completing preventative maintenance and repairs.

In our view one of the primary focuses of the proposed major fire apparatus reserve fund should be to achieve the 15-year life cycle for all identified ‘front-line’ apparatus.

10.6.1 Additional Utilization of Specialty Apparatus

The C.F.E.S. is familiar with speciality apparatus. The current C.F.E.S. fleet includes a number of speciality apparatus such as ‘wildland pumpers’, ‘Quint apparatus’, ‘mini pumpers’ and an ‘aerial platform’. These types of speciality apparatus are required to support the department’s fire suppression (firefighting) capabilities in response to identified community fire risks.

For example, the companion C.R.A. has identified wildland fires as a potential fire related risk within the Town. The current C.F.E.S. major apparatus fleet includes apparatus that have been specifically designed to respond and mitigate wildland fires. The current speciality apparatus fleet also includes a 50' Quint and 100' aerial platform that are specifically designed to provide elevated water supply capabilities and access to taller buildings.

In considering any reduction in the current major fire apparatus fleet the Town and the C.F.E.S. should also consider the operational needs of the volunteer firefighters. As referenced previously within this F.M.P. most of the department's current fire stations have three major fire apparatus assigned to them. The exception is Station 304 (Cheltenham) that only has a Pumper Rescue and Pumper Tanker. Reducing the number of major fire apparatus assigned to a station where volunteer firefighters are deployed should also consider the ability of the department to transport additional volunteer firefighters to an emergency scene, or to a training exercise. In our view consideration should be given to purchasing a smaller more versatile vehicle such as six man cab pickup trucks. This vehicle would be outfitted with all required emergency response equipment such as warning lights, siren and radio equipment.

In our view purchasing this type of smaller specialty vehicle could provide the C.F.E.S. with more operational flexibility to meet the following needs:

- Further increase in wildland firefighting capability by including a skid mounted pump unit within the box of the pickup truck
- Provide capacity for specialty rescues such as high angle rope rescue by enclosing the pickup truck box and providing additional equipment capacity
- Providing an additional emergency response vehicle for transporting volunteer firefighters to emergency incidents and training exercises

The estimated cost of one of these vehicles is $95,000 including all required emergency vehicle equipment.

10.6.2 Additional Service Ready Apparatus (Reserve)

In our view any decision to reduce the size of the current C.F.E.S. major fire apparatus fleet must also consider the service ready (reserve) apparatus capabilities of the department. In the event one of the front-line 'pumper rescues' or 'pumper tankers' is removed from service for preventative maintenance or repairs the C.F.E.S. should have access to service ready (reserve) apparatus for replacement. This strategy is necessary to ensure the operational efficiency and effectiveness of the C.F.E.S. is maintained.

To maintain the operational readiness of the C.F.E.S. it is recommended that consideration be given to maintaining a service ready (reserve) apparatus capability of a minimum of three 'pumper rescues' and one 'pumper tanker' all with a maximum life expectancy of 20 years.

10.7 Current Support Vehicles

In addition, the C.F.E.S. operates a fleet of vehicles to support the operational needs of various Divisions including Administration, Prevention, Training, and Fire Suppression. The current support vehicle fleet is summarized in **Table 65**.

Table 65: Current Support Vehicle Fleet

Vehicle	Description	Manufacturer/ Type	Year Purchased	Current Capital Budget Forecast
Headquarters				
C301	Senior Officer Command Vehicle	Chevrolet / Tahoe Special Service 4WD	2019	Completed
C302	Senior Officer Command Vehicle	Dodge / Durango 4WD	2020	Completed
C303	Senior Officer Command Vehicle	Chevrolet / Tahoe Special Service 4WD	2019	Completed
C331 (Formerly C305)	Logistics and Support	Chevrolet / Silverado	2011	2026

Vehicle	Description	Manufacturer/ Type	Year Purchased	Current Capital Budget Forecast
C332 (Formerly C306)	Training Officer Support Vehicle	Ford / F250	2016	2031
C333 (Formerly C307)	Training Officer Support Vehicle	Ford / F250	2016	2031
C334 (New)	Fire Inspector Support Vehicle	Chevrolet / Silverado 4WD	2019	2031
C341 (Formerly C308)	Fire Inspector Support Vehicle	Chevrolet / Compact Utility	2015	2030
C342 (Formerly C309)	Fire Inspector Support Vehicle	Chevrolet / Compact Utility	2015	2030
C343 (Formerly C310	Fire Inspector Support Vehicle	Chevrolet / Compact Utility	2015	2030
C344 (Formerly C311)	Fire Inspector Support Vehicle	Chevrolet / Compact Utility	2017	2032

In our view the current support vehicle fleet represents the type and size (number) of vehicle that would be expected to support the operational needs of a fire department the size of the C.F.E.S. All smaller support vehicles are also maintained by the Town of Caledon's Infrastructure Services and replaced as part of the Towns corporate fleet replacement process.

Subject to approval of the proposed Assistant Deputy Fire Chief, and full-time Fire Prevention Officer there will be a need to purchase two additional support vehicle estimated at $35,000 for each vehicle

10.8 Minor Equipment

Where life cycles and conditions warrant, small equipment replacement (e.g., portable pumps, generators, etc.), should coincide with the proposed major fire apparatus reserve fund for each apparatus. The C.F.E.S. currently budgets for equipment replacement within the annual operating budget for smaller equipment replacement of hand tools and smaller items. This is due to the fact that many of the smaller pieces of equipment used by the fire department for fire suppression, extrication and other activities have a much shorter life cycle than the major apparatus it is assigned to.

At the time of developing this F.M.P. the C.F.E.S. did not have a defined asset management program for monitoring the life expectancy and funding for the replacement of all types of minor equipment that would also include firefighter protective clothing, self-contained breathing apparatus or firefighting hose, all that have industry life expectancies. With the support of Council the department has historically funded these purchases and replacements through a combination of available capital funding and the annual operating budget.

As the Town and the C.F.E.S. consider the recommendations of this F.M.P. and the proposed development of a major fire apparatus reserve fund consideration should be given to developing a more formal asset management and replacement plan for all minor equipment utilized by the C.F.E.S.

Operational Recommendation #28: That subject to Council's consideration and approval of the proposed Fire Master Plan, consideration be given to developing a more formal asset management and replacement plan for all minor equipment utilized by the C.F.E.S.

10.9 Current Vehicle and Apparatus Preventative Maintenance and Repair Program

All preventive maintenance and repairs to the vehicles and major fire apparatus fleet utilized by the C.F.E.S. are completed by the Town of Caledon's Infrastructure Services. All major fire apparatus assigned to the fire stations are checked by the firefighters assigned to that station on a weekly basis.

Any deficiencies are reported to the Town of Caledon's Infrastructure Services that then creates a work order on the Towns Fleet maintenance system E.M.D.E.C.S. If the deficiency reported is a minor maintenance and repair, Infrastructure Services will deploy a mobile service truck to the fire station. Whenever possible apparatus that are receiving minor maintenance and repairs remain in service at the fire station. If the deficiency reported requires larger repairs, the apparatus is taken out of service and brought to the repair shop located at 1763 Quarry Road, near Caledon Village. The repair shop is shared between Roads Department and the Fire Department and space is limited in the building which creates challenges when working on the larger apparatus. In addition to the space being limited the building is not tall enough to accommodate some of the front-line apparatus which requires maintenance to be performed outside. It is best practice to not park any fire suppression apparatus outdoors during winter months. The below freezing temperatures can freeze the water within the truck and damage the pumps and valves. Performing outdoor maintenance or repairs on fire suppression apparatus, during days with a temperature of below 0° Celsius, can reduce the life span of the apparatus.

Our review of the Towns current preventative maintenance and repair program for C.F.E.S. fire apparatus and vehicles indicates that it has improved over the last 12 to 18 months. Changes during this time period have resulted in less time for apparatus being out of service and major fire apparatus repairs being completed in a timely fashion. The Infrastructure Services team ensures that all major fire apparatus are inspected and maintained as required by the Ministry of Transport (M.T.O.).

In addition to requiring compliance with M.T.O. regulations the C.F.E.S. utilizes the N.F.P.A. 1901 Standard for Firefighting Apparatus Construction, Equipment and Testing to develop specifications for all major fire apparatus as a core element of the Towns purchasing process.

In our view this process represents current municipal best practices in Ontario. The findings of our review of the current preventative maintenance and repair program for all major fire apparatus indicates that it complies with the current M.T.O. regulations. However, as these apparatus are initially designed to also comply with the requirements of the N.F.P.A. 1901 standard it would be beneficial for the Town to also ensure that the major fire apparatus preventative maintenance, repair and testing program also complies with the applicable N.F.P.A. standards. At this time N.F.P.A. is in the process of updating these standards which include the N.F.P.A. 1915 Standard for Fire Apparatus Preventative Maintenance Program and the N.F.P.A. 1910 Standard for Marine Firefighting Vessels and the Inspection, Maintenance, Testing, Refurbishing, and Retirement of In-Service Emergency Vehicles.

In our view applying the applicable N.F.P.A. standards to the current preventative maintenance and repair program represents a further due diligence on the behalf of the Town to ensure its emergency response apparatus remain compliant with the N.F.P.A. standard that they were initially designed and built to comply with.

Operational Recommendation #29: That subject to Council's consideration and approval of the proposed Fire Master Plan, the current apparatus preventative maintenance and repair program be updated to comply with the applicable National Fire Protection Standards.

10.10 Stations, Apparatus and Equipment Summary and Recommendations

The analyses conducted and the consultation completed as a part of this review indicates that the Town is aware of the fire station infrastructure needs. This F.M.P. has not identified any proposed changes to the existing station locations, as such continued investment in the infrastructure improvements and facility needs is recommended. In our view the department would benefit from identifying opportunities to standardize the station design elements and amenities to further support the sustainability of volunteer firefighters and need to accommodate the needs of full-time firefighters.

Our review of the current major fire apparatus fleet operated by the C.F.E.S. indicates a gap in capital financing to achieve an appropriate life cycle replacement plan. This F.M.P. includes a number of recommendations to revise the current composition of the major fire apparatus fleet and the deployment by station.

In our view implementing a revised capital budgeting forecast and replacement strategy for major fire apparatus including the core elements presented within the F.M.P. should be considered.

This F.M.P. presents a number of recommendations regarding the fire stations, apparatus and equipment utilized by the C.F.E.S. as determined through comparison with identified municipal best practices and the Town's legislative requirements. It is recommended that subject to Council's consideration and approval of the proposed Fire Master Plan that the Caledon Fire and Emergency Services implement the following recommendations in support of achieving the strategic priorities of this F.M.P.

Council Recommendation:

16. **That the Town consider developing a major fire apparatus reserve fund as presented within the proposed Fire Master Plan.**

Operational Recommendations:

27. **That consideration be given to developing a comprehensive fire station/facility infrastructure needs assessment including a maintenance and replacement plan.**

28. **That consideration be given to developing a more formal asset management and replacement plan for all minor equipment utilized by the C.F.E.S.**

29. **That the current apparatus preventative maintenance and repair program be updated to comply with the applicable National Fire Protection Standards.**

11.0 Municipal Emergency Planning

The scope of this fire master planning process included conducting a review of the Town's Emergency Planning process. The following section provides a summary of this review.

The legislative framework for managing emergencies in Ontario is established in the **Emergency Management and Civil Protection Act** (E.M.C.P.A.). It is complemented by **Ontario Regulation 380/04 (Standards)**, which lays out the minimum standards required by municipalities and provincial ministries for emergency management programs. This section of the F.M.P. is guided by the appropriate legislation and industry standards and provides an overview of the emergency preparedness, planning and management activities taking place within the Town of Caledon. It also provides an overview of the role of C.F.E.S. in the development and implementation of emergency management programming and plans.

11.1 Compliance with Provincial Legislated Requirements

Under the E.M.C.P.A., the Solicitor General has the authority to make regulations setting 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 E.M.C.P.A., municipalities are required to annually review and submit supporting documentation which may include:

- Emergency Response Plan
- Emergency Management Program By-law
- Proof of training
- Proof of exercises
- Evidence of public education program
- Hazard Identification Risk Assessment (H.I.R.A.)
- Critical Infrastructure (C.I.) List

These program elements are discussed in greater detail throughout this section of the F.M.P.

Research into preparing this F.M.P. indicates that the Town has achieved compliance in meeting the municipal requirements listed above.

11.2 Emergency Management By-law No. 2020-015 and the Town of Caledon Community Emergency Response Plan

Caledon's emergency management program and plan were adopted under the authority of **By-law No. 2014-076.** This by-law was recently amended through **By-law No. 2020-015**. Schedule A to By-law 2020-015 describes the emergency delegated management powers and authority of several Town positions.

According to the publicly available Community Emergency Response Plan (C.E.R.P.) available through the Town's website, the C.E.R.P. was last revised on October 11, 2017. The C.E.R.P. is a tool to assist emergency management personnel and staff who are designated to provide a unified response to emergencies. This C.E.R.P. incorporates guidelines from the Incident Management System (I.M.S.) into Caledon's existing response structure. It also follows the guidelines set out by Ontario's Office of Emergency Management's Provincial Emergency Response Plan. This C.E.R.P. reflects the Town's commitment to the health and safety Caledon residents and compliance with Ontario Regulation 380/04.

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."[36] This support is typically coordinated through an Emergency Operations Centre (E.O.C.).

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

The Town of Caledon has both a primary and alternate E.O.C. Internal consultation with the C.E.M.C. indicates that the Town has utilized a virtual E.O.C. during the COVID-19 pandemic. There are no significant issues with the E.O.C.s and virtual platform at this time and they are serving the emergency management needs of the Town.

The E.M.C.P.A. states that emergency plans for a municipality within a Region should align to the Emergency Plan of that Region. As a municipality of the Region of Peel, the Town of Caledon's C.E.R.P. aligns with the emergency plan of the Region. As stated in the C.E.R.P., Regional or Provincial assistance to the Town is not dependent on declaration of a State of Emergency, however, should the Town require assistance from either, the Town's emergency operations centre (E.O.C.) may collapse into the regional E.O.C. or provincial E.O.C.

11.2.1 Emergency Management Staffing

The C.E.M.C. is responsible for ensuring sustained compliance with the Emergency Management and Civil Protection Act (E.M.C.P.A.) and Ontario Regulation 380/04, which sets out the minimum standards for emergency management programs. In reviewing the Town's C.E.R.P., it is noted that the Community Emergency Management Coordinator (C.E.M.C.) has been assigned to the Fire Chief. The Town's C.E.R.P. also indicates that the Deputy Fire Chiefs are appointed as the Alternate C.E.M.C. in the Fire Chief's absence. Through internal consultation with Town staff, it was identified that there are some workload capacity issues with having the Fire Chief in the role of C.E.M.C. and Deputy Fire Chiefs in the role of Alternate C.E.M.C. The workload resulting from the role of C.E.M.C. should continue to be monitored.

11.3 Training and Annual Exercise

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

The most current guidance provided to municipalities with respect to emergency management training is dated February 6, 2018 which specifies the following four courses as mandatory for C.E.M.C.s:

1. Basic Emergency Management (E.M. 200)
2. Community Emergency Management Coordinator (E.M. 300)
3. Introduction to Incident Management System (I.M.S. 100) available on-line
4. Basic Incident Management System (I.M.S. 200)

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

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

- Knowledge of all components of the Emergency Management program, including the H.I.R.A. and Critical Infrastructure list
- Knowledge of the Municipal Emergency Plan, including their respective roles and responsibilities as well as the roles and responsibilities for 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 M.E.C.G. when the Plan is activated
- Knowledge of the location, and equipment utilized in the E.O.C.

The 2018 guidance also suggests those with responsibilities during a municipal emergency to maintain records complete E.M. 240- Note Taking to ensure proper documentation is prepared in the event of an emergency which requires the activation of the E.O.C. While this training is not mandatory, in our experience, municipal staff have found value in participating in this course offering.

It is crucial that an effective planning process and standardized approach to emergency management be in place prior to an emergency situation and Incident Management Systems defines the roles and responsibilities of all personnel involved in incident management and provides standardized organizational structures, functions, processes and terminology for use at all levels of emergency response.

Ensuring that all personnel responsible for operating in an E.O.C. are properly trained is paramount to the effective and efficient collective response to a municipal emergency.

Internal consultation has indicated that the E.M. program is supported by the C.F.E.S. Public Educator who, in addition to delivering E.M. public education as part of regular fire public education, also assists in the delivery of E.M. training.

In addition to training, the E.M.C.P.A. requires that every municipality complete an emergency exercise on an annual basis. Exposing E.O.C. members to simulated emergencies is an effective tool in preparing teams to respond to an emergency efficiently. Emergency exercises can be used to test a municipality's emergency response plan and procedures as well as to validate the capabilities of those responsible for preparing for and responding to an emergency situation. According to the Town's 2017 C.E.R.P., the plan is tested on an annual basis using emergency exercised of varying duration and complexity.

11.4 Public Education Program

The E.M.C.P.A. requires municipalities to provide emergency preparedness education to the community. The Town's website provides emergency preparedness information including:

- Emergency communication information including social media platforms such as Facebook and Twitter
- Download information for the Pingstreet App for mobile devices to receive emergency alerts
- Information about how to prepare and plan for power outages, flooding, and severe weather
- Information about 72 hour emergency kits including food and water, pets and livestock, personal item, documents and accessibility and vehicle information

The Town's website also includes maps and information about the location of the Town's warming and cooling centres which include the Caledon Centre for Recreation and Wellness, the Caledon Community Complex and the Mayfield Recreation Complex.

A link for the Town's C.E.R.P. is also provided to members of the community.

Where possible, it is recommended that C.F.E.S. continues to utilize the expertise and resources to increase the emergency preparedness messaging throughout the community.

11.5 Hazard Identification and Risk Assessment

In 2019 the O.F.M.E.M. released the **"Hazed Identification Report"** and **"Methodology Guidelines"** outlining a process for the development of a Hazard Identification and Risk Assessment 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
5. Report and Follow-up

Municipalities are required to review the H.I.R.A. on an annual basis and update as needed. The Town of Caledon completed a review and update of its Hazard Identification and Risk Assessment early in 2020 indicating its commitment to sustaining compliance with the municipality's legislative requirements. As a result of this analysis, the top seven (7) hazards in the Town include the following:

- chemical release
- fire / explosion
- wildland fire
- winter weather
- high winds
- crowd disaster
- infectious disease

The impacts of these top hazards on fire protection services in the Town of Caledon are discussed further in the Town's Community Risk Assessment.

11.6 Critical Infrastructure (C.I.)

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." [37] The E.M.C.P.A. requires municipalities to identify critical infrastructure. Further, Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure, requires municipalities to have plans in place addressing 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 C.I. is protected from vulnerabilities, whenever possible is vital to the resilience of the community. This requires proactive and strategic measures which may include:

- Building C.I. in areas which are outside of flood plains and flood prone areas
- Constructing C.I. to disaster resilient standards
- Maintaining C.I. with a high standard of care
- Maintaining a database of all Town owned generators and capacities
- Ensuring facilities included in the Town's C.I. inventory have back up power capacity and/or generator
- Maintaining sufficient fuel storage to maintain continuity of Town operations for a 72 hour period

The Town has met this requirement of the E.M.C.P.A. and maintains a list of its critical infrastructure. Caledon's critical infrastructure is discussed in more depth in the Town's Community Risk Assessment.

11.7 Emergency Management Summary

The Town of Caledon has developed an emergency management program that complies with the requirements of the **Emergency Management and Civil Protection Act** and **Ontario Regulation 380/04.**

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

12.0 Implementation Plan

The recommendations of this F.M.P. have been developed in consideration of the strategic priorities identified within this plan. To achieve this objective, this F.M.P. includes an implementation strategy that categorizes the recommendations of this plan into those that can be implemented by the Fire Chief within the boundaries of his/her current authority delegated by Council. These are presented as ***Operational Recommendations***. Recommendations that require direct Council approval related to policy decisions, or financial commitments are presented as ***Council Recommendations.***

12.1 Operational Recommendations

Table 66 summarizes the recommendations of this F.M.P. that have been deemed as ***Operational Recommendations*** that can be administered and implemented by the Fire Chief within his current authority. In some cases this may require additional work by the Fire Chief in preparing further documentation and 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.

Table 66: Operational Recommendations

Recommendation No.	Operational Recommendations	Estimated Financial Impact	Proposed Implementation
1	The Fire Department Establishing, Maintaining, and Operating By-law No. 2014-075 be reviewed and updated as required.		Short-term
2	The C.F.E.S. implement a regular process for updating all applicable by-laws.		Short-term
3	The current Fire Protection Agreement with the Town of Mono be reviewed and updated as may be required.		Short-term
4	The Fire Dispatch Agreement be updated to include the applicable N.F.P.A. 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems performance guidelines.		Mid-Term

Recommendation No.	Operational Recommendations	Estimated Financial Impact	Proposed Implementation
5	The C.F.E.S. prioritize the implementation of an Operating Guideline Committee including a defined terms of reference, and with the direction to prioritize the review of the Operating Guidelines referenced within the proposed Fire Master Plan.		Short-term
6	The C.F.E.S. develop an Annual Report for presentation to Council and the public.		Mid-Term
7	Consideration be given to prioritizing the development of a technology infrastructure plan and review of current administrative processes.	$100k	Short-term
8	The C.F.E.S. investigate opportunities to further enhance the fire prevention and public education staff resource qualifications as referenced in the proposed Fire Master Plan.		Short-term
9	The current Fire Prevention Policy be reviewed and updated and then presented to Council for consideration and approval and then included within an updated Establishing, Maintaining, and Operating By-law as an appendix.		Short-term
10	The C.F.E.S. develop an operational guideline on the development, approval, review, required qualifications to develop/approve, and the use of Fire Safety Plans.		Mid-Term
11	The C.F.E.S. review the current Home-Safe-Home Program to identify strategies to further enhance the effectiveness of this program in reducing the historical non-compliance of working smoke alarms in the Town of Caledon.		Short-term
12	Consideration be given to expanding the social media capabilities of the C.F.E.S. to enhance its community social media outreach.	$30k	Short-term
13	The C.F.E.S. further investigate opportunities to expand its current community partnership initiatives.		Mid-Term
14	Consideration be given to enhancing the tracking of all workload associated with the C.F.E.S. public education programs as presented within the proposed Fire Master Plan.		Short-term
15	Consideration be given to enhancing the fire safety program for seniors (65+) within the community as presented within the proposed Fire Master Plan.	$10k	Mid-Term
16	A representative group of the volunteer firefighters be consulted in developing a staff resource plan to deliver the recommended enhanced Home-Safe-Home program across the Town.		Short-term
17	The C.F.E.S. develop a strategy to optimize the utilization of qualified volunteer firefighters in delivering the department's public education program.		Short-term

Recommendation No.	Operational Recommendations	Estimated Financial Impact	Proposed Implementation
18	The C.F.E.S. optimize the utilization of full-time firefighters in delivering the proposed Enhanced In-Service Fire Safety Audits program.		Mid-Term
19	All staff assigned to delivering the department's comprehensive annual training program be required to attain the applicable training staff qualifications presented within the proposed Fire Master Plan.		Mid-Term
20	The C.F.E.S. investigate options to further enhance the utilization of online training.	$15k	Mid-Term
21	The C.F.E.S. investigate opportunities to further enhance its Company Officer Training Program as referenced in the proposed Fire Master Plan.		Mid-Term
22	The C.F.E.S consider developing a comprehensive annual training plan based on the N.F.P.A. Professional Qualifications Standards as presented within the proposed Fire Master Plan.		Short-term
23	The C.F.E.S. continue to investigate options for developing automatic aid agreements for providing Specialized Rescue Services.		Mid-Term
24	The C.F.E.S prioritize the implementation of succession planning opportunities.		Mid-Term
25	The C.F.E.S. incorporate regular opportunities for joint training sessions amongst C.F.E.S. stations into its Comprehensive Annual Training Program.		Short-term
26	The C.F.E.S incorporate annual opportunities for joint training sessions with mutual aid partners into its Comprehensive Annual Training Program.		Mid-Term
27	That consideration be given to developing a comprehensive fire station/facility infrastructure needs assessment including a maintenance and replacement plan.		Short-term
28	That consideration be given to developing a more formal asset management and replacement plan for all minor equipment utilized by the C.F.E.S.		Short-term
29	That the current apparatus preventative maintenance and repair program be updated to comply with the applicable National Fire Protection Standards.	$200k	**Mid-Term**

12.2 Council Recommendations

Council Recommendations include those that require a policy decision or financial commitment on behalf of the Town. **Table 67** summarizes the recommendations of this F.M.P. that have been deemed as ***Council Recommendations*.**

Table 67: Council Recommendations

Recommendation No.	Council Recommendations	Estimated Capital Financial Impact	Estimated Annual Operating Cost	Proposed Implementation
1	That subject to Councils consideration and approval of the proposed Fire Master Plan that the strategic priorities presented within the proposed Fire Master Plan be adopted in principle by Council to guide all decision making related to the delivery of fire protection services within the Town of Caledon including that: i. The Town of Caledon is committed to the annual review of its Community Risk Assessment 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 Caledon Fire and Emergency Services. ii. The Caledon Fire and Emergency Services will prioritize the optimization of the first two lines of defence, including public education and fire prevention, and the utilization of fire safety standards and fire code enforcement as the foundation of providing a comprehensive fire protection program within the Town of Caledon. iii. The Caledon Fire and Emergency Services will specifically prioritize the delivery of fire and life safety programs in Group C- Residential Occupancies that include an enhanced Home Smoke Alarm/Carbon Monoxide Alarm Program. iv. The Town of Caledon will continue to prioritize strategies that support the sustainability of a 'composite fire department' and the delivery of fire protection services that provide the most effective and efficient level of services resulting in the best value for the community.			Short-Term
2	Consideration be given to hiring a third full-time Administrative Assistant to support the C.F.E.S.		$85k	Short-Term (2021)
3	Consideration be given to hiring an additional full-time Fire Prevention Officer within the short-term 1 to 3 year planning horizon.	$40k	$135k	Short-Term (2022)
4	Consideration be given to hiring an additional full-time Fire and Life Safety Educator within the mid-term 3 to 5 year planning horizon.	$40k	$135	Mid-Term (2024)
5	The Town of Caledon should strive to achieve a fire suppression deployment benchmark including a minimum of six firefighters responding within a 14 minute response time (turnout time + travel			Short-Term

Recommendation No.	Council Recommendations	Estimated Capital Financial Impact	Estimated Annual Operating Cost	Proposed Implementation
	time) to 80% of the fire related incidents within the entire municipality.			
6	The Town of Caledon should be striving to achieve a fire suppression deployment benchmark including a minimum of ten firefighters responding within a ten minute response time (turnout time + travel time) to 80% of the fire related incidents within the defined Mayfield West Rural Service Centre.			Short-Term
7	The Town of Caledon should be striving to achieve a fire suppression deployment benchmark including a minimum of ten firefighters responding within a ten minute response time (turnout time + travel time) to 80% of the fire related incidents within the defined Bolton Rural Service Centre.			Short-Term
8	The Town of Caledon hire the proposed full-time Assistant Deputy Fire Chief.	$55k	$180k	Short-Term
9	The Caledon Fire and Emergency Services continue to strive towards utilization of the proposed volunteer firefighter turnout time benchmarks.			Short-Term
10	The Fire Chief be given the authority to increase the total complement of volunteer firefighters at existing stations by up to a maximum of 10% of the existing Council approved total complement of 280 volunteer firefighters.	$150k	$300k	Mid-Term
11	Consideration be given to further enhancing the current Volunteer Firefighter recruitment and retention program.			Short-Term
12	Consideration be given to implementing the proposed Volunteer Firefighter Remuneration Program.	To be determined		Short-term
13	Consideration be given to developing a financial plan and associated staffing strategy to hire the additional full-time firefighters that will be required to staff the proposed new Fire Station 310 and 311 as referenced in the proposed Fire Master Plan.	To be determined		Short-Term
14	The Caledon Fire and Emergency Services further investigate the development and implementation of automatic aid agreements with surrounding communities.			Mid-Term
15	That the Town of Caledon conduct further research into the utilization of alternative staffing models for the provision of fire			Mid-Term

Recommendation No.	Council Recommendations	Estimated Capital Financial Impact	Estimated Annual Operating Cost	Proposed Implementation
	suppression services, as referenced within the proposed Fire Master Plan.			
16	The Town consider developing a major fire apparatus reserve fund as presented within the proposed Fire Master Plan.	To be determined		Short-Term